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HNF-EP-0182, Rev. 153

Waste Tank Summary Report for Month Ending December 31, 2000

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

CH2MHILL
Hanford Group, Inc.
Richland, Washington

Contractor for the U.S. Department of Energy
Office of River Protection under Contract DE-AC06-99RL14047

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		Design Authority									
		Design Agent									
1	1	Cog. Eng.	BM Hanlon	1/23/01	R3-72						
1	1	Cog. Mgr.	John S Garfield	1/23/0	R3-73						
		QA									
		Safety									
		Env.									

18.	19.	20.	21. DOE APPROVAL (if required)
BM Hanlon 1/23/01 Signature of EDT Originator / Date	Authorized Representative for Receiving Organization / Date	John Garfield 1-23-01 Design Authority/ Cognizant Manager / Date	Ctrl No. _____ ☐ Approved ☐ Approved w/comments ☐ Disapproved w/comments

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B. M. Hanlon
CH2M HILL Hanford Group, Inc.

Date Published
January 2001

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

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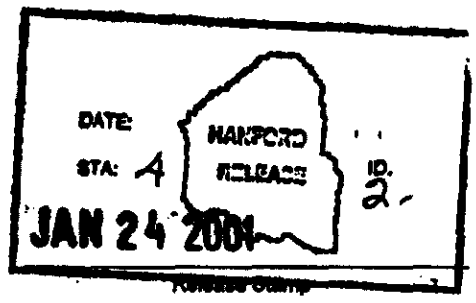

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Prepared by: B. M. Hanlon — Date: 1/23/01

Responsible Manager: John S. Garfield, Manager, Inventory and Flowsheet Engineering — Date: 1/23/01

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Waste Tank Summary Report

B. M. Hanlon

ABSTRACT

(i) *This report is the official inventory for radioactive waste stored in underground tanks in the 200 Areas at the Hanford Site. Data that depict the status of stored radioactive waste and tank vessel integrity are contained within the report. This report provides data on each of the existing 177 large underground waste storage tanks and 63 smaller miscellaneous underground storage tanks and special surveillance facilities, and supplemental information regarding tank surveillance anomalies and ongoing investigations. This report is intended to meet the requirement of U. S. Department of Energy-Richland Operations Office Order 435.1 (DOE-RL, July 1999, Radioactive Waste Management, U. S. Department of Energy-Richland Operations Office, Richland, Washington) requiring the reporting of waste inventories and space utilization for Hanford Tank Farm tanks.*

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METRIC CONVERSION CHART		
1 inch	=	2.54 centimeters
1 foot	=	30.48 centimeters
1 gallon	=	3.80 liters
1 ton	=	0.90 metric tons
$°F = \left(\frac{9}{5}°C\right) + 32$		
1 Btu/h = 2.930711 E-01 watts (International Table)		

Waste Tank Summary Report
For Month Ending December 31, 2000

Note: Changes from the previous month are in bold print.

I. WASTE TANK STATUS

Category	Quantity	Date of Last Change
Double-Shell Tanks[b]	28 double-shell	10/86
Single-Shell Tanks	149 single-shell	1966
Assumed Leaker Tanks	67 single-shell	07/93
Sound Tanks	28 double-shell 82 single-shell	1986 07/93
Interim Stabilized Tanks[a]	125 single-shell	09/00
Not Interim Stabilized[a]	24 single-shell	09/00
Intrusion Prevention Completed	108 single-shell	09/96
Controlled, Clean, and Stable[f]	36 single-shell	09/96
Watch List Tanks[d] Total	19 single-shell 6 double-shell 25 tanks	09/00[e] 06/93

[a] Of the 125 tanks classified as Interim Stabilized, 65 are listed as Assumed Leakers. (See Table G-1)

[b] Six double-shell tanks are currently included on the Hydrogen Watch List and are thus prohibited from receiving waste in accordance with "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," Section 3137 of the *National Defense Authorization Act for Fiscal Year 1991*, November 5, 1990, Public Law 101-510.

[c] Two of these tanks are Assumed Leakers (BY-105, BY-106). (See Table F-1)

[d] See Appendix D for more information on Watch List Tanks.

[e] Dates for the Watch List tanks are "officially added to or removed from the Watch List" dates. Eighteen tanks were removed from the Organic Watch List in December 1998; the last two tanks (C-102 and C-103) were removed from the Organic Watch List in August 2000. In December 1999, tank C-106 was removed from the High Heat Load Watch List. Only the Hydrogen Watch List remains.

[f] The TY tank farm was officially declared Controlled, Clean, and Stable (CCS) in March 1996. The TX tank farm and BX tank farms were declared CCS in September 1996.

II. WASTE TANK INVESTIGATIONS

This section includes all single- or double-shell tanks or catch tanks which are showing surface level or interstitial liquid level (ILL) decreases, or drywell radiation level increases in excess of established criteria.

A. Assumed Leakers or Assumed Re-leakers: (See Appendix H for definition of "Re-leaker")

This section includes all single- or double-shell tanks or catch tanks for which an off-normal or unusual occurrence report has been issued, or for which a waste tank investigation is in progress, for assumed leaks or re-leaks. Tanks/catch tanks will remain on this list until either a) completion of Interim Stabilization, b) the updated occurrence report indicates that the tank/catch tank is not an assumed leaker, or c) the investigation is completed.

There are no formal leak investigations in progress. There are no tanks for which an off-normal or unusual occurrence report has been issued for assumed leaks or re-leaks.

B. Tanks with increases indicating possible intrusions:

This section includes all single-shell tanks and related receiver tanks for which the surveillance data show that the surface level or ILL has met or exceeded the increase criteria, or are still being investigated.

Candidate Intrusion List: Increase criteria in the following tanks indicate possible intrusions.

Tank 241-B-202
Tank 241-BX-101
Tank 241-BX-103
Tank 241-BY-103

The surveillance data was last reviewed on the tanks listed as having probable liquid intrusions: Memo 74B20-99-045, dated November 22, 1999.

Catch Tank 241-AX-152: The liquid level in this catch tank was steady around 66.75 inches from the startup of Project W-030, "Tank Farm Ventilation System," in March 1998 until late August 1998. The level then began to decrease. The October 1998 reading of 65 inches is 1.75 inches below the summer average. This is an active catch tank, routinely pumped, and deviations from baseline are not applicable per OSD-00031. The decrease represents a significant change in trend and it is apparent that tank conditions changed around the end of August 1998.

Resolution Status: Discrepancy Report #98-853 was issued on November 4, 1998. One possible cause under investigation is a change in flow path, causing an increase in evaporation. The tank was pumped down to 2.25 inches on November 13, 1998. Since that time the level has decreased to 0.00 inches. The Discrepancy Report will remain open until an engineering investigation is complete.

The discrepancy remained unresolved, and there was a renewed interest in this tank because of its importance for deactivation of the 702A ventilation system to prepare it for Decommissioning and Deactivation and for collection of drainage from AX-155. In the absence of an agreement on a leak test, management requested a leak assessment. The leak assessment team met April 20, 2000, to review the data. Observations inconsistent

with a conclusion that the catch tank was leaking and scanty data prompted the leak assessment team to defer a decision pending availability of additional data - primarily tank temperature and a more sensitive level measuring device to shorten the necessary leak test time. A Leak Test Recommendation was issued May 8, 2000. The leak test involves adding water to the tank and measuring the level drop, to support tank integrity assessment. The addition of AX-152 integrity pressure test water to AY-101 is being re-evaluated because the actual volume of water to be added to the DST system (approximately 50,000 gallons) is considerably more than the volume originally evaluated. The increased volume is necessary because of the siphon type pump in the catch tank.

Leak assessment is currently being performed per Work Package 2E-00-193. Water was added in August 2000 which raised the level to 10-3/4 inches. **The level was 9.25 inches on December 31, 2000.**

Work Package 2E-00-194 is on the schedule to fill the catch tank to 80% capacity (approximately 108 inches) and perform a 40-hour leak test.

Because the ENRAF will not be installed, Work Package ES-99-00133 has been revised to allow flammable gas sampling through the existing manual tape.

III. SURVEILLANCE AND WASTE TANK STATUS HIGHLIGHTS

1. Single-Shell Tanks Saltwell Jet Pumping (See Table A-6 footnotes for further information)

Tank 241-A-101 - Pumping began May 6, 2000. **No pumping in December 2000; a total of 14.1 Kgallons has been pumped from this tank since start of pumping in May 2000.**

Tank 241-AX-101 - Pumping began July 29, 2000. **No pumping in December 2000; a total of 8.3 Kgallons has been pumped from this tank since start of pumping in July 2000.**

Tank 241-S-102 - Pumping problems forced many shutdowns. The pump was replaced and pumping resumed on February 19, 2000. Problems with the new pump forced a shutdown on March 23, 2000. Pumping was interrupted in early June 2000; due to the flushing involved in trying to return to pumping, June pumping resulted in a net addition to the tank. **No pumping in December 2000; a total of 56.8 Kgallons has been pumped from this tank since start of pumping in March 1999.**

Tank 241-S-106 - Pumping was discontinued on January 3, 2000, to allow the waste levels to stabilize, so waste porosities and final waste volumes can then be calculated to determine whether this tank meets Interim Stabilization criteria. **As of December 31, 2000, waste levels had not yet stabilized.**

Tank 241-S-109 - Pumping began September 23, 2000. **In December 2000, a total of 2.9 Kgallons was pumped; a total of 144.6 Kgallons has been pumped from this tank (111.0 Kgallons were pumped in 1979 [primary stabilization], and partial isolation in 1982).**

Tank 241-SX-101 - Pumping began November 22, 2000. In December 2000, a total of 6.9 Kgallons was pumped; a total of 19.2 Kgallons has been pumped from this tank. The pump failed on December 9, 2000.

Tank 241-SX-103 - Pumping began October 26, 2000. **In December 2000, a total of 29.0 Kgallons was pumped; a total of 93.5 Kgallons has been pumped from this tank since start of pumping in October 2000. Waste pumping rate has declined from 1.5 GPM to 0.5 GPM.**

Tank 241-SX-105 - Pumping began August 8, 2000. **In December 2000, a total 5.6 Kgallons was pumped; a total of 142.0 Kgallons has been pumped since start of pumping in August 2000.**

Tank 241-U-102 - Pumping began January 20, 2000. **In December 2000, a total of 5.1 Kgallons was pumped; a total of 71.4 Kgallons has been pumped from this tank since start of pumping in January 2000.**

Tank 241-U-105 - Pumping began December 10, 1999, and was discontinued July 13, 2000, because of a pump failure. Waste levels are being allowed to stabilize, so waste porosities and final waste volumes can then be calculated to determine whether this tank meets Interim Stabilization criteria. **As of December 31, 2000, waste levels had not yet stabilized.**

Tank 241-U-106 - Pumping began August 24, 2000. **In December 2000, a total of 0.7 Kgallons was pumped; a total of 39.1 Kgallons has been pumped from this tank since start of pumping in August 2000. Pumping rate has fallen below 0.05 GPM. The pump failed on December 29,000. The tank is currently in observation mode to determine eligibility for interim stabilization.**

Tank 241-U-109 - Pumping began March 11, 2000. **In December 2000, a total of 0.6 Kgallons was pumped; a total of 65.9 Kgallons has been pumped from this tank since start of pumping in March 2000. Jet pump failure occurred on December 4, 2000. Attempts to restart the pump have been unsuccessful. The tank is currently under observation mode to determine eligibility for interim stabilization with major equipment failure.**

2. Double-Shell Tank 241-SY-101 Waste Level Increase

Tank 241-SY-101 exhibited gas release events due to generation and retention of flammable gas. A mixer pump was installed in the tank in July 1993, which circulated liquid wastes. This prevents gas bubbles from building up at the bottom, and results in venting of small steady gas releases. Since early 1997, the surface level has been rising in spite of regular mixer pump operations.

Resolution Status: On February 11, 1998, the PRC recommended that the DOE-RL declare an Unreviewed Safety Question (USQ) over the continued level growth observed in this tank. The contractor has established a multi-disciplinary team to solve the level growth issues in SY-101.

Final calculated transfer and dilution volumes for level growth remediation can be found in Memo 74B50-00-030, dated March 23, 2000.

The mixer pump is currently in "Standby Mode." The DOE-RL approved the closing of the USQ on November 30, 2000. **It is expected that the official approval to close the flammable gas safety issue and remove this tank from the Hydrogen Watch List will be received in January 2001. It is further anticipated that the documentation for the implementation of the AB change to discontinue use of the mixer pump will be completed by February 15, 2001. Later, this tank will be restored to normal service to provide another operational storage tank.**

3. RL-PMHC-TANKFARM-1999-0023, Occurrence Report, "Additional Information Regarding Crust Growth in 241-SY-101," Off-Normal Occurrence, Latest Update: **December 28, 2000**. (also see #2 above)

On December 18, 1999, approximately 90,000 gallons of nuclear waste was transferred from tank SY-101 to SY-102 in the first of three planned transfers.

In conjunction with the transfers, water is added to the waste to reduce the concentration of gas generation and gas-retaining chemicals to reduce gas buildup in SY-101 and associated receiving tanks.

The second of the three waste transfers was completed on January 27, 2000.

The third and final phase of transfers was initiated on February 29, and completed March 2, 2000.

On April 3, 2000, a Mixer Pump Observation Period (MPOP) began, which was completed; data is being evaluated.

The mixer pump is in "standby mode."

This report is being extended pending completion and evaluation of tank activities during the MPOP and resolution of the USQ issues. (USQ closed November 30, 2000).

It is anticipated than an Update or Final report will be submitted no later than January 26, 2001.

APPENDIX A

MONTHLY SUMMARY

TABLE A-1. MONTHLY SUMMARY
TANK STATUS
December 31, 2000

	200 EAST AREA	200 WEST AREA	TOTAL
IN SERVICE	25	03	28 (1)
OUT OF SERVICE	66	83	149
SOUND	59	51	110
ASSUMED LEAKER	32	35	67
INTERIM STABILIZED	60	65	125
ISOLATED			
PARTIAL INTERIM	11	30	41
INTRUSION PREVENTION COMPLETE	55	53	108
CONTROLLED, CLEAN, AND STABLE	12	24	36

WASTE VOLUMES (Kgallons)

		200 EAST AREA	200 WEST AREA	TOTAL	SST TANKS	DST TANKS	TOTAL
SUPERNATANT							
AW	Aging waste	1757	0	1757	0	1757	1757
CC	Complexant concentrate waste	3169	1264	4433	0	4432	4433
CP	Concentrated phosphate waste	1089	0	1089	0	1089	1089
DC	Dilute complexed waste	1659	759	2418	1	2417	2418
DN	Dilute non-complexed waste	1572	0	1572	0	1572	1572
PD	PUREX/TRUsolids	318	0	318	0	318	318
NCPLX	Non-complexed waste	164	149	313	313	0	313
DSSF	Double-shell slurry feed	6034	168	6202	1049	5153	6202
TOTAL SUPERNATANT		15762	2340	18102	1363	16739	18102
SOLIDS							
	Sludge (includes liquids)	6502	5648	12150	11059	1091	12150
	Saltcake (includes liquids)	8106	15812	23918	20710	3208	23918
TOTAL SOLIDS		14608	21460	36068	31769	4299	36068
TOTAL WASTE		30370	23800	54170	33132	21038	54170
AVAILABLE SPACE IN TANKS		9382	877	10259	0	10259	10259
DRAINABLE INTERSTITIAL LIQUID (2)		1425	2340	3765	3465	(2)	3465
DRAINABLE LIQUID REMAINING (2)		2472	2356	4828	4828	(2)	4828

(1) Includes six double-shell tanks on Hydrogen Watch List not currently allowed to receive waste, AN-103, AN-104, AN-105, AW-101, SY-101, and SY-103.

(2) Drainable Interstitial Liquid and Drainable Liquid Remaining for single-shell tanks only; not applicable for double-shell tanks

TABLE A-2. TANK USE SUMMARY

December 31, 2000

TANK FARMS	TANKS AVAILABLE TO RECEIVE WASTE TRANSERS	SOUND	ASSUMED LEAKER	ISOLATED TANKS: PARTIAL INTERIM ISOLATED	ISOLATED TANKS: INTRUSION PREVENTION COMPLETED	ISOLATED TANKS: CONTROLLED CLEAN, AND STABLE	ISOLATED TANKS: INTERIM STABILIZED TANKS
EAST							
A	0	3	3	2	4	0	5
AN	7 (1)	7	0	0	0	0	0
AP	8	8	0	0	0	0	0
AW	6 (1)	6	0	0	0	0	0
AX	0	2	2	1	3	0	3
AY	2	2	0	0	0	0	0
AZ	2	2	0	0	0	0	0
B	0	6	10	0	16	0	16
BX	0	7	5	0	12	12	12
BY	0	7	5	5	7	0	10
C	0	9	7	3	13	0	14
Total	26	69	32	11	55	12	80
WEST							
S	0	11	1	10	2	0	5
SX	0	5	10	6	9	0	11
SY	3 (1)	3	0	0	0	0	0
T	0	9	7	5	11	0	16
TX	0	10	8	0	18	18	18
TY	0	1	5	0	6	6	6
U	0	12	4	9	7	0	9
Total	3	151	35	30	53	24	65
TOTAL	28	110	67	41	108	36	125

(1) Six Double-Shell Tanks on the Hydrogen Watch List are not currently receiving waste transfers (AN-103, 104, 105, AW-101, SY-101 and 103).

TABLE A-3. PUMPING RECORD, LIQUID STATUS AND PUMPABLE LIQUID REMAINING IN TANK FARMS

December 31, 2000

	Waste Volumes (Kgallons)						
TANK FARMS	PUMPED THIS MONTH	PUMPED FY TO DATE	CUMULATIVE TOTAL PUMPED 1979 TO DATE	SUPERNATANT LIQUID	DRAINABLE INTERSTITIAL REMAINING	DRAINABLE LIQUID REMAINING	PUMPABLE SST LIQUID REMAINING
EAST							
A	0.0	0.0	164.6	503	161	665	622
AN	N/A	N/A	N/A	3743	N/A	N/A	N/A
AP	N/A	N/A	N/A	6281	N/A	N/A	N/A
AW	N/A	N/A	N/A	2491	N/A	N/A	N/A
AX	0.0	0.0	21.3	378	105	483	447
AY	N/A	N/A	N/A	444	N/A	N/A	N/A
AZ	N/A	N/A	N/A	1757	N/A	N/A	N/A
B	0.0	0.0	0.0	15	262	277	203
BX	N/A	0.0	200.2	24	127	N/A	N/A
BY	0.0	0.0	1567.8	0	581	581	498
C	0.0	0.0	103.0	126	189	315	207
Total	0.0	0.0	2056.9	15792	1425	2321	1977
WEST							
S	2.9	21.1	1074.5	76	621	697	578
SX	41.5	175.9	633.5	134	352	486	413
SY	N/A	N/A	N/A	2023	N/A	N/A	N/A
T	0.0	0.0	245.7	29	218	246	168
TX	N/A	0.0	1205.7	9	297	N/A	N/A
TY	N/A	0.0	29.9	0	53	N/A	N/A
U	6.4	28.7	362.8	69	499	568	486
Total	50.8	225.7	3552.1	2340	2040	1997	1645
TOTAL	50.8	225.7	5609.0	18102	3465	4318	3622

N/A = Not applicable for Double-Shell Tank Farms, and Single-Shell Tank Farms which have been declared Controlled, Clean and Stable (BX, TX, TY).

TABLE A-4. INVENTORY SUMMARY BY TANK FARM

December 31, 2000

TANK FARM	TOTAL WASTE	AVAIL SPACE	SUPERNATANT LIQUID VOLUMES (Kgallo									SOLIDS VOLUME		
			AW	CC	CP	DC	DN	PD	NCPLX	DSSF	TOTAL	SLUDGE	SALT CAKE	TOTAL
EAST														
A	1479	0	0	0	0	0	0	0	0	503	503	574	402	976
AN	5491	2489	0	1778	0	0	224	0	0	1741	3743	0	1748	1748
AP	6370	2750	0	1391	1089	1609	32	0	0	2160	6281	0	89	89
AW	3984	2856	0	0	0	0	921	318	0	1252	2491	571	922	1493
AX	826	0	0	0	0	0	0	0	0	378	378	26	422	448
AY	736	1224	0	0	0	49	395	0	0	0	444	292	0	292
AZ	1914	63	1757	0	0	0	0	0	0	0	1757	157	0	157
B	1909	0	0	0	0	0	0	0	15	0	15	1211	683	1894
BX	1490	0	0	0	0	0	0	0	24	0	24	1259	207	1466
BY	4387	0	0	0	0	0	0	0	0	0	0	754	3633	4387
C	1784	0	0	0	0	1	0	0	125	0	126	1658	0	1658
Total	30220	3383	1757	3169	1089	1659	1572	318	164	6034	15762	6502	8106	14608
WEST														
S	4929	0	0	0	0	0	0	0	75	1	76	1184	3669	4853
SX	3760	0	0	0	0	0	0	0	0	134	134	927	2699	3626
SY	2543	877	0	1264	0	759	0	0	0	0	2023	71	449	520
T	1877	0	0	0	0	0	0	0	29	0	29	1703	145	1848
TX	6810	0	0	0	0	0	0	0	9	0	9	697	6104	6801
TY	639	0	0	0	0	0	0	0	0	0	0	529	110	639
U	3242	0	0	0	0	0	0	0	36	33	69	537	2636	3173
Total	23800	877	0	1264	0	759	0	0	149	168	2340	5648	15812	21460
TOTAL	54170	10258	1757	4433	1089	2418	1572	318	313	6202	18102	12150	23918	36068

TABLE A-5. INVENTORY AND STATUS BY TANK - DOUBLE-SHELL TANKS

December 31, 2000

TANK STATUS								SOLIDS VOLUME					PHOTOS/VIDEOS		
TANK	WASTE MATL	TANK STATUS	TANK USE	EQUIVALENT WASTE INCHES	TOTAL WASTE (Kgal)	AVAIL. SPACE (1) (Kgal)	SUPERNATANT LIQUID (Kgal)	SLUDGE (includes liquid) (Kgal)	SLUDGE LIQUID (15% porosity) (Kgal)	SALTCAKE (includes liquid) (Kgal)	SALTCAKE LIQUID (25% porosity) (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTE FOR THESE CHANGES
AN TANK FARM STATUS															
AN-101	DN	SOUND	DRCVR	61.5	224	916	224	0	0	0	0	06/30/99			
AN-102	CC	SOUND	CWHT	382.5	1052	88	963	0	0	89	22	06/30/99			
AN-103	DSS	SOUND	CWHT	347.6	956	184	499	0	0	457	114	06/30/99	10/28/87		
AN-104	DSSF	SOUND	CWHT	382.5	1052	88	603	0	0	449	112	06/30/99	08/19/86		
AN-105	DSSF	SOUND	CWHT	410.2	1128	12	638	0	0	488	122	06/30/99	01/26/88		
AN-106	CC	SOUND	CWHT	13.8	38	1102	21	0	0	17	4	06/30/99			
AN-107	CC	SOUND	CWHT	378.5	1041	99	794	0	0	247	62	06/30/99	08/01/86		
7 DOUBLE-SHELL TANKS				TOTALS	5491	2489	3743	0	0	1748	436				
AP TANK FARM STATUS															
AP-101	DSSF	SOUND	DRCVR	405.1	1114	26	1114	0	0	0	0	05/01/99			
AP-102	CP	SOUND	DRCVR	396.0	1089	51	1089	0	0	0	0	07/11/99			
AP-103	CC	SOUND	DRCVR	102.5	282	858	282	0	0	0	0	05/31/96			
AP-104	CC	SOUND	DRCVR	403.3	1109	31	1109	0	0	0	0	10/13/99			
AP-105	DSSF	SOUND	CWHT	412.7	1135	5	1046	0	0	89	22	06/30/99		09/27/95	
AP-106	DC	SOUND	DRCVR	226.5	623	517	623	0	0	0	0	10/13/99			
AP-107	DC	SOUND	DRCVR	358.5	986	154	986	0	0	0	0	10/13/99			
AP-108	DN	SOUND	DRCVR	11.6	32	1108	32	0	0	0	0	10/13/99			
8 DOUBLE-SHELL TANKS				TOTALS	6370	2750	6281	0	0	89	22				
AW TANK FARM STATUS															
AW-101	DSSF	SOUND	CWHT	409.8	1127	13	752	0	0	375	94	10/31/00	03/17/86		
AW-102	DN	SOUND	EVFD	23.3	64	1076	34	0	0	30	8	06/30/99	02/02/83		
AW-103	PD	SOUND	DRCVR	185.1	509	631	146	316	79	47	12	06/30/99			
AW-104	DN	SOUND	DRCVR	406.5	1118	22	887	0	0	231	58	06/30/99	02/02/83		
AW-105	PD	SOUND	DRCVR	155.3	427	713	172	255	36	0	0	06/30/99			
AW-106	DSSF	SOUND	SRCVR	268.7	739	401	500	0	0	239	60	06/30/99	02/02/83		
6 DOUBLE-SHELL TANKS				TOTALS	3984	2856	2491	571	117	922	232				

TABLE A-5. INVENTORY AND STATUS BY TANK - DOUBLE-SHELL TANKS

December 31, 2000

TANK STATUS													PHOTOS/VIDEOS		
TANK	WASTE MATL	TANK STATUS	TANK USE	EQUIVALENT WASTE INCHES	TOTAL WASTE (Kgal)	AVAIL. SPACE (1) (Kgal)	SUPERNATANT LIQUID (Kgal)	SLUDGE (includes liquid) (Kgal)	SLUDGE LIQUID (15% porosity) (Kgal)	SALTCAKE (includes liquid) (Kgal)	SALTCAKE LIQUID (25% porosity) (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTE FOR THESE CHANGES
AY TANK FARM STATUS															
AY-101	DC	SOUND	DRCVR	57.1	157	823	49	108	16	0	0	06/30/99	12/28/82		
AY-102	DN	SOUND	DRCVR	210.5	579	401	395	184	28	0	0	10/31/00	04/28/81		
2 DOUBLE-SHELL TANKS				TOTALS	736	1224	444	292	44	0	0				
AZ TANK FARM STATUS															
AZ-101	AW	SOUND	CWHT	333.5	917	63	865	52	8	0	0	06/30/99	09/18/83		
AZ-102	AW	SOUND	DRCVR	382.5	997	0	892	105	16	0	0	06/30/99	10/24/84		
2 DOUBLE-SHELL TANKS				TOTALS	1914	63	1757	157	24	0	0				
SY TANK FARM STATUS															
SY-101	CC	SOUND	CWHT	353.1	971	169	888	0	0	83	21	06/30/99	04/12/89		
SY-102	DC	SOUND	DRCVR	301.8	830	310	758	71	11	0	0	06/30/99	04/28/81		
SY-103	CC	SOUND	CWHT	269.8	742	398	376	0	0	366	92	06/30/99	10/01/85		(a)
3 DOUBLE-SHELL TANKS				TOTALS	2543	877	2023	71	11	449	113				
GRAND TOTAL					21038	10259	16739	1091	196	3206	803				

Note: +/- 1 Kgal differences are the result of computer rounding

Available Space Calculations Used in this Document	
Tank Farms	(Most Conservative)
AN, AP, AW, SY	1,140,000 gal (414.5 1,140 Kgal
AY, AZ (Aging Wast	980,000 gal (356.4 i 980 Kgal

NOTE: Supernate + Sludge (includes liquid) + Saltcake (includes liquid) = Total Waste

(1) Available Space volumes include restricted space, - see Appendix C tables for allocation of these restrictions.

(a) SY-103 - from March 2000 thru August 2000, the total saltcake was mistakenly shown as total sludge, due to re-calculations and a new format used during that time. There is no sludge in this tank.

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

These volumes are the result of engineering calculations and may not agree with surface level measurements.

TANK STATUS					LIQUID VOLUME						SOLIDS VOLUME			PHOTOS/VIDEOS		
TANK	WASTE MAT'L	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER-NATE LIQUID (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
A TANK FARM STATUS																
A-101	DSSF	SOUND	/PI	877	494	96	0.0	14.1	590	574	3	380	09/30/99	09/21/95		(g)
A-102	DSSF	SOUND	IS/PI	41	4	8	0.0	38.5	12	4	15	22	07/27/99	07/20/99		
A-103	DSSF	ASMD LKR	IS/IP	371	5	46	0.0	111.0	50	43	306	0	06/03/99	12/28/99		
A-104	NCPLX	ASMD LKR	IS/IP	28	0	4	0.0	0.0	4	0	28	0	01/27/78	06/25/96		
A-105	NCPLX	ASMD LKR	IS/IP	37	0	0	0.0	0.0	0	0	37	0	10/31/00	06/20/96		
A-106	CP	SOUND	IS/IP	126	0	9	0.0	0.0	9	1	125	0	09/07/82	06/19/96		
6 SINGLE-SHELL TANKS			TOTALS	1479	503	161	0.0	164.6	665	622	574	402				
AX TANK FARM STATUS																
AX-101	DSSF	SOUND	/PI	676	378	74	0.0	8.3	452	436	3	295	09/30/99	09/18/97		(h)
AX-102	CC	ASMD LKR	IS/IP	30	0	7	0.0	13.0	7	0	7	23	06/30/99	06/05/99		
AX-103	CC	SOUND	IS/IP	112	0	23	0.0	0.0	23	11	8	104	06/30/99	09/13/97		
AX-104	NCPLX	ASMD LKR	IS/IP	8	0	1	0.0	0.0	1	0	8	0	06/30/99	09/18/97		
4 SINGLE-SHELL TANKS			TOTALS:	826	378	105	0.0	21.3	483	447	26	422				
B TANK FARM STATUS																
B-101	NCPLX	ASMD LKR	IS/IP	113	0	24	0.0	0.0	24	17	0	113	06/30/99	05/19/93		
B-102	NCPLX	SOUND	IS/IP	32	4	7	0.0	0.0	11	4	0	28	06/30/99	06/22/95		
B-103	NCPLX	ASMD LKR	IS/IP	59	0	11	0.0	0.0	11	3	0	59	06/30/99	10/13/95		
B-104	NCPLX	SOUND	IS/IP	371	1	45	0.0	0.0	46	42	309	61	06/30/99	10/13/95		
B-105	NCPLX	ASMD LKR	IS/IP	158	0	20	0.0	0.0	20	16	28	130	06/30/99	05/19/95		
B-106	NCPLX	SOUND	IS/IP	117	1	26	0.0	0.0	26	19	0	116	02/28/00	02/28/95		
B-107	NCPLX	ASMD LKR	IS/IP	165	1	22	0.0	0.0	23	19	93	71	06/30/99	02/28/95		
B-108	NCPLX	SOUND	IS/IP	94	0	15	0.0	0.0	15	11	53	41	06/30/99	05/10/95		
B-109	NCPLX	SOUND	IS/IP	127	0	21	0.0	0.0	21	17	63	64	06/30/99	04/02/95		
B-110	NCPLX	ASMD LKR	IS/IP	246	1	27	0.0	0.0	28	20	245	0	02/28/95	03/17/98		
B-111	NCPLX	ASMD LKR	IS/IP	237	1	23	0.0	0.0	24	29	236	0	06/28/95	06/26/95		
B-112	NCPLX	ASMD LKR	IS/IP	33	3	4	0.0	0.0	7	3	30	0	05/31/95	05/29/95		
B-201	NCPLX	ASMD LKR	IS/IP	29	1	4	0.0	0.0	5	1	28	0	04/28/82	11/12/96	06/23/95	
B-202	NCPLX	SOUND	IS/IP	27	0	4	0.0	0.0	4	0	27	0	05/31/95	05/29/95	06/15/95	
B-203	NCPLX	ASMD LKR	IS/IP	51	1	5	0.0	0.0	6	1	50	0	05/31/94	11/13/96		
B-204	NCPLX	ASMD LKR	IS/IP	50	1	5	0.0	0.0	6	1	49	0	05/31/94	10/22/97		
16 SINGLE-SHELL TANKS			TOTALS	1909	15	262	0.0	0.0	277	203	1211	683				

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

[redacted]

TANK STATUS					LIQUID VOLUME						SOLIDS VOLUME			PHOTOS/VIDEOS		
TANK	WASTE MAT'L.	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER-NATE (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
BX TANK FARM STATUS																
BX-101	NCPLX	ASMD LKR	IS/IP/CCS	43	1	4	0.0	0.0	5	1	42	0	04/28/82	11/24/88	11/10/94	
BX-102	NCPLX	ASMD LKR	IS/IP/CCS	96	0	0	0.0	0.0	0	0	96	0	04/28/82	09/16/85		
BX-103	NCPLX	SOUND	IS/IP/CCS	71	9	4	0.0	0.0	13	9	62	0	11/28/83	10/31/86	10/27/94	
BX-104	NCPLX	SOUND	IS/IP/CCS	93	3	4	0.0	17.4	7	3	90	0	02/29/00	09/21/89		
BX-105	NCPLX	SOUND	IS/IP/CCS	51	5	4	0.0	15.0	9	5	46	0	06/30/99	10/23/86		
BX-106	NCPLX	SOUND	IS/IP/CCS	38	0	4	0.0	14.0	4	0	38	0	08/01/95	05/18/88	07/17/95	
BX-107	NCPLX	SOUND	IS/IP/CCS	345	1	36	0.0	23.1	37	33	344	0	08/18/90	08/11/90		
BX-108	NCPLX	ASMD LKR	IS/IP/CCS	26	0	4	0.0	0.0	4	0	26	0	07/31/79	05/05/94		
BX-109	NCPLX	SOUND	IS/IP/CCS	193	0	25	0.0	8.2	25	20	193	0	08/17/90	08/11/90		
BX-110	NCPLX	ASMD LKR	IS/IP/CCS	207	3	28	0.0	1.5	31	26	133	71	06/30/99	07/15/94	10/13/94	
BX-111	NCPLX	ASMD LKR	IS/IP/CCS	162	1	5	0.0	116.9	6	2	25	136	06/30/99	05/19/94	02/28/95	
BX-112	NCPLX	SOUND	IS/IP/CCS	165	1	9	0.0	4.1	10	7	164	0	08/17/90	08/11/90		
12 SINGLE-SHELL TANKS			TOTALS:	1490	24	127	0.0	200.2	151	106	1259	207				
BY TANK FARM STATUS																
BY-101	NCPLX	SOUND	IS/IP	387	0	26	0.0	35.8	26	24	109	278	05/30/94	09/19/89		
BY-102	NCPLX	SOUND	IS/PI	277	0	40	0.0	159.0	40	33	0	277	05/01/95	09/11/87	04/11/95	
BY-103	NCPLX	ASMD LKR	IS/PI	400	0	58	0.0	95.9	58	53	9	391	06/30/99	09/07/89	02/24/97	
BY-104	NCPLX	SOUND	IS/IP	326	0	40	0.0	329.5	40	36	150	176	06/30/99	04/27/83		
BY-105	NCPLX	ASMD LKR	/PI	503	0	121	0.0	0.0	121	111	48	455	06/31/99	07/01/86		
BY-106	NCPLX	ASMD LKR	/PI	562	0	132	0.0	63.7	132	119	84	478	12/31/98	11/04/82		
BY-107	NCPLX	ASMD LKR	IS/IP	266	0	39	0.0	56.4	39	35	40	226	06/30/99	10/15/86		
BY-108	NCPLX	ASMD LKR	IS/IP	228	0	33	0.0	27.5	33	26	154	74	04/28/82	10/15/86		
BY-109	NCPLX	SOUND	IS/PI	290	0	31	0.0	157.1	31	26	57	233	07/09/97	06/18/97		
BY-110	NCPLX	SOUND	IS/IP	396	0	21	0.0	213.3	21	17	103	295	06/16/79	07/26/94		
BY-111	NCPLX	SOUND	IS/IP	459	0	14	0.0	313.2	14	6	0	459	06/30/99	10/31/86		
BY-112	NCPLX	SOUND	IS/IP	291	0	24	0.0	116.4	24	12	0	291	06/30/99	04/14/88		
12 SINGLE-SHELL TANKS			TOTALS:	4387	0	581	0.0	1567.8	581	466	754	3633				

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

These volumes are the result of engineering calculations and may not agree with surface level measurements.

TANK STATUS					LIQUID VOLUME						SOLIDS VOLUME					
TANK	WASTE MAT'L.	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER-NATE (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
C TANK FARM STATUS																
C-101	NCPLX	ASMD LKR	IS/IP	88	0	4	0.0	0.0	4	0	88	0	11/29/83	11/17/87		
C-102	DC	SOUND	IS/IP	316	0	62	0.0	46.7	62	55	316	0	09/30/95	05/18/76	08/24/95	
C-103	NCPLX	SOUND	/PI	196	79	18	0.0	0.0	97	83	119	0	12/31/86	07/28/87		
C-104	CC	SOUND	IS/IP	263	0	0	0.0	0.0	0	0	263	0	02/01/00	07/25/90		
C-105	NCPLX	SOUND	IS/PI	132	0	20	0.0	0.0	20	0	132	0	02/29/00	06/06/94	08/30/95	
C-106	NCPLX	SOUND	/PI	48	42	0	0.0	0.0	42	9	6	0	10/31/88	06/06/94	08/08/94	
C-107	DC	SOUND	IS/IP	257	0	30	0.0	40.8	30	25	257	0	06/30/99	00/00/00		
C-108	NCPLX	SOUND	IS/IP	66	0	4	0.0	0.0	4	0	66	0	02/24/94	12/05/74	11/17/94	
C-109	NCPLX	SOUND	IS/IP	66	4	4	0.0	0.0	8	4	62	0	11/29/83	01/30/76		
C-110	DC	ASMD LKR	IS/IP	178	1	37	0.0	15.5	38	30	177	0	06/14/95	06/12/86	05/23/95	
C-111	NCPLX	ASMD LKR	IS/IP	57	0	4	0.0	0.0	4	0	57	0	04/28/82	02/25/70	02/02/95	
C-112	NCPLX	SOUND	IS/IP	104	0	6	0.0	0.0	6	1	104	0	09/18/90	09/18/90		
C-201	NCPLX	ASMD LKR	IS/IP	2	0	0	0.0	0.0	0	0	2	0	03/31/82	12/02/86		
C-202	EMPTY	ASMD LKR	IS/IP	1	0	0	0.0	0.0	0	0	1	0	01/19/79	12/09/86		
C-203	NCPLX	ASMD LKR	IS/IP	5	0	0	0.0	0.0	0	0	5	0	04/28/82	12/09/86		
C-204	NCPLX	ASMD LKR	IS/IP	3	0	0	0.0	0.0	0	0	3	0	04/28/82	12/09/86		
16 SINGLE-SHELL TANKS			TOTALS:	1784	126	189	0.0	103.0	315	207	1658	0				
S TANK FARM STATUS																
S-101	NCPLX	SOUND	/PI	427	12	83	0.0	0.0	95	80	211	204	12/31/86	03/18/86		
S-102	DSSF	SOUND	/PI	492	0	93	0.0	56.8	93	88	105	387	05/31/00	03/18/86		(c)
S-103	DSSF	SOUND	IS/PI	237	1	45	0.0	23.9	46	39	9	227	04/30/00	06/01/88	01/28/00	
S-104	NCPLX	ASMD LKR	IS/IP	294	1	34	0.0	0.0	35	31	293	0	12/20/84	12/12/84		
S-105	NCPLX	SOUND	IS/IP	456	0	42	0.0	114.3	42	33	2	454	09/26/88	04/12/89		
S-106	NCPLX	SOUND	/PI	328	0	10	0.0	203.6	10	2	0	328	08/30/00	03/17/89	01/28/00	(a)
S-107	NCPLX	SOUND	/PI	376	14	61	0.0	0.0	75	61	293	89	06/30/99	03/12/87		
S-108	NCPLX	SOUND	IS/PI	432	0	0	0.0	189.8	0	0	5	427	10/01/96	03/12/87	12/03/96	
S-109	NCPLX	SOUND	/PI	473	0	60	2.9	144.6	60	49	13	460	12/31/00	12/31/86		(j)
S-110	NCPLX	SOUND	IS/PI	390	0	30	0.0	203.1	30	27	131	259	05/14/92	03/12/87	12/11/96	
S-111	NCPLX	SOUND	/PI	501	48	82	0.0	3.3	130	97	116	337	09/30/99	08/10/89		
S-112	NCPLX	SOUND	/PI	523	0	81	0.0	125.1	81	70	6	517	12/31/98	03/24/87		
12 SINGLE-SHELL TANKS			TOTALS:	4929	76	621	2.9	1074.5	697	578	1184	3669				

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

[redacted] These volumes are the result of engineering calculations and may not agree with data from [redacted]

TANK STATUS					LIQUID VOLUME						SOLIDS VOLUME					
TANK	WASTE MAT'L.	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER-NATE (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
SX TANK FARM STATUS																
SX-101	DC	SOUND	/PI	429	0	93	6.9	19.2	93	80	0	429	12/31/00	03/10/99		(j)
SX-102	DSSF	SOUND	/PI	514	134	95	0.0	0.0	229	216	0	380	04/30/00	01/07/98		
SX-103	NCPLX	SOUND	/PI	541	0	54	29.0	93.5	54	39	115	426	12/31/00	12/17/97		(k)
SX-104	DSSF	ASMD LKR	IS/PI	446	0	48	0.0	231.3	48	44	136	310	04/30/00	09/09/98	02/04/96	
SX-105	DSSF	SOUND	/PI	495	0	11	5.6	142.0	11	-1	65	430	12/31/00	06/15/98		(l)
SX-106	NCPLX	SOUND	IS/PI	397	0	37	0.0	147.5	37	31	0	397	05/31/99	06/01/98		
SX-107	NCPLX	ASMD LKR	IS/IP	102	0	0	0.0	0.0	0	0	85	17	10/31/00	03/09/97		
SX-108	NCPLX	ASMD LKR	IS/IP	87	0	0	0.0	0.0	0	0	87	0	12/31/93	03/09/97		
SX-109	NCPLX	ASMD LKR	IS/IP	249	0	0	0.0	0.0	0	0	60	189	10/31/00	05/21/96		
SX-110	NCPLX	ASMD LKR	IS/IP	62	0	0	0.0	0.0	0	0	62	0	10/06/76	02/20/97		
SX-111	NCPLX	ASMD LKR	IS/IP	122	0	8	0.0	0.0	8	3	122	0	06/30/99	06/09/94		
SX-112	NCPLX	ASMD LKR	IS/IP	108	0	6	0.0	0.0	6	1	108	0	06/30/99	03/10/97		
SX-113	NCPLX	ASMD LKR	IS/IP	31	0	0	0.0	0.0	0	0	31	0	06/30/99	03/18/96		
SX-114	NCPLX	ASMD LKR	IS/IP	165	0	0	0.0	0.0	0	0	44	121	10/31/00	02/26/97		
SX-115	NCPLX	ASMD LKR	IS/IP	12	0	0	0.0	0.0	0	0	12	0	04/26/82	03/31/98		
15 SINGLE-SHELL TANKS			TOTALS:	3780	134	352	41.5	633.5	486	413	927	2699				
T TANK FARM STATUS																
T-101	NCPLX	ASMD LKR	IS/PI	102	1	20	0.0	25.3	21	16	37	64	06/30/99	04/07/93		
T-102	NCPLX	SOUND	IS/IP	32	13	3	0.0	0.0	16	11	19	0	08/31/94	06/29/99		
T-103	NCPLX	ASMD LKR	IS/IP	27	4	3	0.0	0.0	7	3	23	0	11/29/83	07/03/94		
T-104	NCPLX	SOUND	IS/PI	317	0	31	0.0	149.5	31	27	317	0	12/31/99	06/29/99	10/07/99	
T-105	NCPLX	SOUND	IS/IP	98	0	5	0.0	0.0	5	0	98	0	05/29/97	05/14/97		
T-106	NCPLX	ASMD LKR	IS/IP	21	2	0	0.0	0.0	2	2	19	0	04/29/82	06/29/99		
T-107	NCPLX	ASMD LKR	IS/PI	173	0	34	0.0	11.0	34	20	173	0	05/31/96	07/12/94	05/08/96	
T-108	NCPLX	ASMD LKR	IS/IP	44	0	5	0.0	0.0	5	0	21	23	06/30/99	07/17/94		

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

These volumes are the result of engineering calculations and may not agree with surface level measurements.

TANK	WASTE MAT'L.	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	LIQUID VOLUME: SUPER-NATE (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SOLIDS VOLUME: SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
T-109	NCPLX	ASMD LKR	IS/IP	58	0	10	0.0	0.0	10	3	0	58	06/30/99	02/25/83		
T-110	NCPLX	SOUND	IS/PI	389	1	48	0.0	50.3	48	43	388	0	01/31/00	07/12/84	10/07/99	
T-111	NCPLX	ASMD LKR	IS/PI	446	0	38	0.0	9.6	38	35	446	0	04/18/94	04/13/84	02/13/95	
T-112	NCPLX	SOUND	IS/IP	67	7	4	0.0	0.0	11	7	60	0	04/28/82	09/01/84		
T-201	NCPLX	SOUND	IS/IP	29	1	4	0.0	0.0	5	1	28	0	05/31/78	04/15/86		
T-202	NCPLX	SOUND	IS/IP	21	0	3	0.0	0.0	3	0	21	0	07/12/81	07/08/88		
T-203	NCPLX	SOUND	IS/IP	35	0	5	0.0	0.0	5	0	35	0	01/31/78	08/03/88		
T-204	NCPLX	SOUND	IS/IP	38	0	5	0.0	0.0	5	0	38	0	07/22/81	08/03/88		
16 SINGLE-SHELL TANKS			TOTALS:	1877	29	218	0.0	245.7	246	188	1703	145				
TX TANK FARM STATUS																
TX-101	NCPLX	SOUND	IS/IP/CCS	87	3	8	0.0	0.0	11	7	74	10	06/30/99	10/24/85		
TX-102	NCPLX	SOUND	IS/IP/CCS	217	0	27	0.0	94.4	27	16	0	217	08/31/84	10/31/85		
TX-103	NCPLX	SOUND	IS/IP/CCS	157	0	18	0.0	66.3	18	11	0	157	06/30/99	10/31/85		
TX-104	NCPLX	SOUND	IS/IP/CCS	65	5	9	0.0	3.6	14	9	23	37	06/30/99	10/16/84		
TX-105	NCPLX	ASMD LKR	IS/IP/CCS	609	0	25	0.0	121.5	25	14	0	609	08/22/77	10/24/88		
TX-106	NCPLX	SOUND	IS/IP/CCS	341	0	37	0.0	134.6	37	30	0	341	06/30/99	10/31/85		
TX-107	NCPLX	ASMD LKR	IS/IP/CCS	36	1	6	0.0	0.0	7	1	8	27	06/30/99	10/31/85		
TX-108	NCPLX	SOUND	IS/IP/CCS	134	0	8	0.0	13.7	8	1	6	128	06/30/99	09/12/88		
TX-109	NCPLX	SOUND	IS/IP/CCS	384	0	6	0.0	72.3	6	2	384	0	06/30/99	10/24/88		
TX-110	NCPLX	ASMD LKR	IS/IP/CCS	462	0	14	0.0	115.1	14	10	37	425	06/30/99	10/24/88		
TX-111	NCPLX	SOUND	IS/IP/CCS	370	0	10	0.0	98.4	10	8	43	327	06/30/99	09/12/88		
TX-112	NCPLX	SOUND	IS/IP/CCS	649	0	26	0.0	94.0	26	21	0	649	05/30/83	11/19/87		
TX-113	NCPLX	ASMD LKR	IS/IP/CCS	653	0	30	0.0	19.2	30	0	0	653	10/31/00	04/11/83	09/23/94	
TX-114	NCPLX	ASMD LKR	IS/IP/CCS	535	0	17	0.0	104.3	17	11	4	531	06/30/99	04/11/83	02/17/95	
TX-115	NCPLX	ASMD LKR	IS/IP/CCS	566	0	25	0.0	99.1	25	15	0	566	06/30/99	06/15/88		
TX-116	NCPLX	ASMD LKR	IS/IP/CCS	631	0	21	0.0	23.8	21	17	68	563	06/30/99	10/17/89		
TX-117	NCPLX	ASMD LKR	IS/IP/CCS	626	0	10	0.0	54.3	10	5	29	597	06/30/99	04/11/83		
TX-118	NCPLX	SOUND	IS/IP/CCS	286	0	0	0.0	89.1	0	0	21	265	02/01/00	12/19/79		
18 SINGLE-SHELL TANKS			TOTALS:	6810	9	297	0.0	1205.7	306	176	697	6104				

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

Note: Volumes are the result of engineering calculations and may not agree with current data assessments.

TANK STATUS					LIQUID VOLUME						SOLIDS VOLUME			PHOTOS/VIDEOS		
TANK	WASTE MAT'L.	TANK INTEGRITY	STABIL/ ISOLATION STATUS	TOTAL WASTE (Kgal)	SUPER-NATE LIQUID (Kgal)	DRAIN-ABLE INTER-STIT. (Kgal)	PUMPED THIS MONTH (Kgal)	TOTAL PUMPED (Kgal)	DRAIN-ABLE LIQUID REMAIN (Kgal)	PUMP-ABLE LIQUID REMAIN (Kgal)	SLUDGE (Kgal)	SALT CAKE (Kgal)	SOLIDS VOLUME UPDATE	LAST IN-TANK PHOTO	LAST IN-TANK VIDEO	SEE FOOTNOTES FOR THESE CHANGES
TY TANK FARM STATUS																
TY-101	NCPLX	ASMD LKR	IS/IP/CCS	118	0	2	0.0	8.2	2	0	72	46	06/30/99	06/22/99		
TY-102	NCPLX	SOUND	IS/IP/CCS	84	0	12	0.0	8.6	12	5	0	84	06/28/82	07/07/87		
TY-103	NCPLX	ASMD LKR	IS/IP/CCS	162	0	20	0.0	11.5	20	16	162	0	07/09/82	06/22/99		
TY-104	NCPLX	ASMD LKR	IS/IP/CCS	43	0	4	0.0	0.0	4	0	43	0	06/27/80	11/03/87		
TY-105	NCPLX	ASMD LKR	IS/IP/CCS	231	0	12	0.0	3.6	12	10	231	0	04/28/82	06/07/99		
TY-106	NCPLX	ASMD LKR	IS/IP/CCS	21	0	3	0.0	0.0	3	0	21	0	06/30/99	06/22/99		
6 SINGLE-SHELL TANKS			TOTALS:	639	0	53	0.0	28.9	53	31	529	110				
U TANK FARM STATUS																
U-101	NCPLX	ASMD LKR	IS/IP	25	3	3	0.0	0.0	6	2	22	0	04/28/82	06/19/79		
U-102	NCPLX	SOUND	/PI	304	0	32	5.1	71.4	32	22	43	261	12/31/00	06/06/99		(a)
U-103	NCPLX	SOUND	IS/PI	418	1	33	0.0	96.9	34	28	13	404	05/31/00	06/13/88		
U-104	NCPLX	ASMD LKR	IS/IP	122	0	0	0.0	0.0	0	0	79	43	06/30/99	06/10/99		
U-105	NCPLX	SOUND	/PI	331	0	37	0.0	67.5	37	33	32	299	07/31/00	07/07/88		(b)
U-106	NCPLX	SOUND	/PI	187	0	29	0.7	38.1	29	17	0	187	12/31/00	07/07/88		(f)
U-107	DSSF	SOUND	/PI	408	33	92	0.0	0.0	125	115	15	360	12/31/99	10/27/88		
U-108	NCPLX	SOUND	/PI	466	24	108	0.0	0.0	132	124	29	415	12/31/99	06/12/84		
U-109	NCPLX	SOUND	/PI	399	0	61	0.6	65.9	61	52	35	364	12/31/00	07/07/88		(d)
U-110	NCPLX	ASMD LKR	IS/PI	186	0	18	0.0	0.0	18	14	186	0	12/30/94	12/11/94		
U-111	DSSF	SOUND	/PI	329	0	80	0.0	0.0	80	71	26	303	12/31/99	06/23/88		
U-112	NCPLX	ASMD LKR	IS/IP	49	4	4	0.0	0.0	8	4	45	0	02/10/94	06/03/99		
U-201	NCPLX	SOUND	IS/IP	5	1	1	0.0	0.0	2	1	4	0	06/15/79	06/06/99		
U-202	NCPLX	SOUND	IS/IP	5	1	1	0.0	0.0	2	1	4	0	06/15/79	06/06/99		
U-203	NCPLX	SOUND	IS/IP	3	1	0	0.0	0.0	1	1	2	0	06/15/79	06/13/99		
U-204	NCPLX	SOUND	IS/IP	3	1	0	0.0	0.0	1	1	2	0	06/15/79	06/13/99		
16 SINGLE-SHELL TANKS			TOTALS:	3242	69	499	6.4	382.8	568	486	537	2636				
GRAND TOTAL				33132	1363	3465	50.8	5609.0	4826	3836	11059	20710				

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

[redacted]

FOOTNOTES:

Total Waste is calculated as the sum of Sludge and Saltcake plus Supernate. The category "Interim Isolated (II) was changed to Intrusion Prevention (IP) in June 1993.

Stabilization information from WHC-SD-RE-TI-178 SST STABILIZATION RECORD, latest revision, or SST Stabilization or Cognizant Engineer

Porosity values are 25% for saltcake and 15% for sludge, per HNF-2978, Rev. 1, "Updated Pumpable Liquid Volume Estimates and Jet Pump Durations for Interim Stabilization of Remaining Single-Shell Tanks," September 1999, with the exception of those tanks which have been interim stabilized and the porosities recalculated.

Tanks A-105, C-105, C-106, S-111, SX-107, SX-109, SX-114, and TX-113 were updated in October 2000 issue per BBI dated October 2000.

(a) S-106 Pumping was discontinued on January 3, 2000, to allow the waste levels to stabilize, so waste porosities and final waste volumes can then be calculated to determine whether this tank meets Interim Stabilization criteria. Waste levels have not been stabilized, as of December 31, 2000.

Note: In April 2000 issue, volumes were changed to reflect HNF-2978; however, because S-106 had been pumped and was "holding" to allow waste to stabilize, the volumes should not have been changed. In September 2000 issue, volumes were changed back to reflect actual pumping.

(b) U-105 Pumping was discontinued July 13, 2000, due to pump failure. Waste levels are being allowed to stabilize, so waste porosities and final waste volumes can then be calculated to determine whether this tank meets Interim Stabilization. As of December 31, 2000, waste levels had not yet stabilized.

(c) S-102 Following information from Cognizant Engineer

Pumping commenced March 16, 1998. Many pumping problems occurred over the following months, and the pump has been replaced several times. Pumping was interrupted again in June 2000.
Remaining volumes are based on the original estimate volumes in HNF-2978, Rev. 1.

Total Waste: 492.2 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial: 93.3 Kgal
Pumped this month: 0.0 Kgal
Total Pumped: 56.8 Kgal
Drainable Liquid Remaining: 93.3 Kgal
Pumpable Liquid Remaining: 88.9 Kgal
Sludge: 105.0 Kgal
Saltcake: 387.2 Kgal

During June 2000, a total of 1,857 gal of fluid was removed with 1,989 gal of water added by flushes/priming for a net addition of 132 gal of tank waste. In addition, 2,129 gal of dilution water and 245 gal of water were added for transfer line flushes. (No pumping since June 2000).

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

THESE VOLUMES ARE THE RESULT OF ENGINEERING CALCULATIONS AND MAY NOT AGREE WITH SURFACE LEVEL MEASUREMENTS

FOOTNOTES:

(d) U-109 Following information from Cognizant Engineer

Pumping began March 11, 2000. Saltcake volume is adjusted to correspond to current waste removal. Remaining volumes based on HNF-2978, Rev. 2.
Pumping was shut down on December 3, 2000, due to jet pump failure. Attempts to restart the pump have been unsuccessful. The tank is currently under observation mode to determine eligibility for interim stabilization with major equipment failure.

Tank Waste: 388.1 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial: 61.1 Kgal
Pumped this month: 0.6 Kgal
Total Pumped: 66.9 Kgal
Drainable Liquid Remaining: 61.1 Kgal
Pumpable Liquid Remaining: 52.1 Kgal
Sludge: 35.0 Kgal
Saltcake: 384. Kgal

During December 2000, a total of 724 gal of fluid was removed with 103 gal of water added by pump priming/equipment flushes, for a net removal of 621 gal of tank waste. In addition, 883 gal of dilution water and 100 gal of water were used for transfer line flushes. Following jet pump failure, an additional 458 gal of flush water was added. This was not reflected in the above volumes.

(e) U-102 Following information from Cognizant Engineer

Pumping began in this tank on January 20, 2000. Saltcake volume is adjusted to correspond to current waste removal.
Remaining volumes are based on HNF-2978, Rev. 2.

Total Waste: 303.5 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial Liquid: 31.6 Kgal (*)
Pumped this Month: 5.1 Kgal
Total Pumped: 31.6 Kgal
Drainable Liquid Remaining: 31.6 Kgal
Pumpable Liquid Remaining: 21.6 Kgal
Sludge: 43.0 Kgal
Saltcake: 260.5 Kgal

During December 2000, a total of 5,589 gal of fluid was removed with 520 gal of water added by pump priming/equipment flushes, for a net removal of 5,069 gal of waste. In addition, 14,13 gal of water were used as dilution and 3,330 gal of water were used for transfer line flushes.
(*) The drainable interstitial volume was incorrectly reported in the October and November 2000 issues (3,000 gal too high). The DIL has been adjusted to reflect the current estimated value.

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

THESE VOLUMES ARE THE RESULT OF ENGINEERING CALCULATIONS AND MAY NOT AGREE WITH SURFACE LEVEL MEASUREMENTS

FOOTNOTES:

(f) SX-105 Following information from Cognizant Engineer:

Saltwell pumping began August 8, 2000.
Remaining volumes are based on HNF-2978, Rev. 2.

Tank Waste: 495.0 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial Liquid: 11.0 Kgal
Pumped this month: 5.6 Kgal
Total Pumped: 142.0 Kgal
Drainable Liquid Remaining: 11.0 Kgal
Pumpable Liquid Remaining: -1.0 Kgal (*)
Sludge: 86.0 Kgal
Saltcake: 430.0 Kgal

In December 2000, a total of 5,862 gal of fluid was removed with 247 gal of water added by pump priming and system flushes, for a net removal of 5,615 gal of waste. In addition, .059 gal of dilution water and 764 gal of water for transfer lines flushes were used.
(*) Minus 1,000 gal estimate for PLR because there is more pumpable liquid in the tank than originally estimated. This is due to the fact that approx. 118,000 gal of supernate was in the tank at the start of pumping. There is an estimated 15,000 gal of PLR and 27,000 gal of DLR.

(a) A-101 Following information from Cognizant Engineer

Pumping began on May 6, 2000.
Remaining volumes are based on the original estimated volumes in HNF-2978, Rev. 1.

Total Waste: 576.8 Kgal
Supernate: 483.8 Kgal
Drainable Interstitial Liquid: 95.0 Kgal
Pumped this Month: 0.0 Kgal
Total Pumped: 14.1 Kgal
Drainable Liquid Remaining: 590.0 Kgal
Pumpable Liquid Remaining: 573.6 Kgal
Sludge: 3.0 Kgal
Saltcake: 380.0 Kgal

During August 2000, a total of 0 gal of fluid was removed from the tank with 273 of water added by pump priming/equipment flushes for a net removal of -273 gal of waste. This number will be subtracted against the next waste removed.
In addition, 0 gal of water was used as dilution and 0 gal of water was used for transfer line flushes. (No pumping since August 2000).

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

THESE VOLUMES ARE THE RESULT OF ENGINEERING CALCULATIONS AND MAY NOT AGREE WITH SURFACE LEVEL MEASUREMENTS

FOOTNOTES:

(h) AX-101 Following information from Cognizant Engineer

Pumping began July 29, 2000.
Remaining volumes are based on the original estimated volumes in HNF-2978, Rev. 1.

Total Waste: 675.6 Kgal
Supernate: 377.6 Kgal
Drainable Interstitial Liquid: 73.7 Kgal
Pumped this month: 0.0 Kgal
Total pumped: 8.366 Kgal
Drainable Liquid Remaining: 451.6 Kgal
Pumpable Liquid Remaing: 434.6 Kgal
Sludge: 3.0 Kgal
Saltcake: 295.0 Kgal

In August 2000, a total of 7,292 gal of fluid was removed from the tank with 241 gal of water added by pump priming/equipment, for a net removal of 7,051 gal of waste.
In addition, 18,332 gal of water were used as dilution and 930 gal of water were used for transfer line flushes. (No pumping since August 2000).

(i) U-106 Following information from Cognizant Engineer:

Pumping began August 24, 2000. Remaining volumes are based on HNF-2978, Rev. 2.
Pumping rate has fallen below the 0.05 GPM criteria. The pump failed on December 28, 2000. This tank is currently in observation mode to determine eligibility for interim stabilization.

Total Waste: 186.8 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial Liquid: 28.6 Kgal
Pumped this month: 0.7 Kgal
Total Pumped: 39.1 Kgal
Drainable Liquid Remaining: 28.6 Kgal
Pumpable Liquid Remaining: 16.9 Kal
Sludge: 0.0 Kgal
Saltcake: 186.8 Kgal

In December 2000, a total of 1,814 gal of fluid was removed with a total of 1,111 gal of water added by pump priming/equipment flushes, for a net removal of 697 gal of waste.
In addition, 5,118 gal of water were used as dilution and 254 gal of water were used for transfer line flushes.

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

THESE VOLUMES ARE THE RESULT OF ENGINEERING CALCULATIONS AND DO NOT AGREE WITH SURFACE LEVEL MEASUREMENTS

FOOTNOTES:

(j) S-109 Following informatio from Cognizant Engineer:

Pumping began September 23, 2000.
Remaining volumes are based on HNF-2978, Rev. 2.

Total Waste: 473.4 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial Liquid: 59.8 Kgal
Pumped this Month: 2.9 Kgal
Total Pumped: 144.6 Kgal (Includes 111.0 Kgal pumped in 1979)
Drainable Liquid Remaining: 59.8 Kgal
Pumpable Liquid Remaining: 49.4 Kgal
Sludge: 13.0 Kgal
Saltcake: 460.4 Kgal

In December 2000, a total of 3,595 gal of fluid was removed with 716 gal of water added by pump priming/system flushes, for a net removal of 2,879 gal of waste. In addition, 0 gal of water were used for dilution, and 366 gal of water were used for transfer line flushes.

(k) SX-103 Following information from Cognizant Engineer:

Pumping began October 26, 2000.
Remaining volumes are based on HNF-2978, Rev. 2.

Total Waste: 540.5 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial Liquid: 53.5 Kgal
Pumped this month: 29.0 Kgal
Total Pumped: 83.5 Kgal
Drainable Liquid Remaining: 53.5 Kgal
Pumpable Liquid Remaining: 38.5 Kal
Sludge: 115.0 Kgal
Saltcake: 426.5 Kgal

In December 2000, a total of 29,367 gal of fluid was removed with a total of 332 gal of water added by pump priming/equipment flushes, for a net removal of 29,025 gal of waste. In addition, 29,780 gal of water were used as dilution and 831 gal of water were used for transfer line flushes.

As of December 28, 2000, tank level indicated by neutron ILL decreased to 105.9 inches while the ENRAF decreased to 197.0 inches. Also, in December, the waste pumping rate declined from about 1.5 gpm to 0.5 gpm.

TABLE A-6. INVENTORY AND STATUS BY TANK - SINGLE-SHELL TANKS

December 31, 2000

THESE VOLUMES ARE THE RESULT OF ENGINEERING CALCULATIONS AND MAY NOT AGREE WITH SURFACE LEVEL MEASUREMENTS

FOOTNOTES:

(l) SX-101 Following information from Cognizant Engineer:

Pumping began November 22, 2000
Remaining volumes are based on HNF-2978, Rev 2. Saltcake volume is adjusted to correspond to current waste removal.

Total Waste: 428.8 Kgal
Supernate: 0.0 Kgal
Drainable Interstitial: 92.8 Kgal
Pumped this Month: 6.8 Kgal
Total Pumped: 19.2 Kgal
Drainable Liquid Remaining: 92.8 Kgal
Pumpable Liquid Remaining: 86.7 Kgal
Sludge: 0.0 Kgal
Saltcake: 428.8 Kgal

During December, 2000, a total of 7,264 gal of fluid was removed with a total of 407 gal of water added by pump priming/equipment flushes, for a net removal of 6,857 gal of waste.
In addition, 8,176 gal of water were used as dilution and 0 gal were used for transfer line flushes.
Following pump failure on December 9, 2000, an additional 461 gal of flush water was added. This was not reflected in the above volumes.

APPENDIX B

PERFORMANCE SUMMARY

TABLE B-1. SUMMARY OF WASTE TRANSACTIONS IN THE DOUBLE-SHELL TANK (DST) SYSTEM

December 31, 2000

All volumes in Kgallons

- The DST system received waste additions from SST Stabilization, and catch tanks 151-AZ, & A-350 in December.
- There was a net change of +138,000 gallons in the DST system for December 2000.
- The total DST inventory as of December 31, 2000 was 21.038 million gallons.
- There were 0 Kgals of Saltwell Liquid (SWL) pumped to the East Area DSTs (101-AN) in December.
- There were ~129 Kgals of SWL (52 Kgals SWL & 77 Kgals H2O) pumped to the West Area DSTs (102-SY) in December.
- The SWL numbers are preliminary and are subject to change once cognizant engineers do a validation, the volumes reported contain actual waste volume plus any water added for dilution and transfer line flushes.
- There were ~8600 gallons of caustic (NaOH) added to Tank 241-AY-101 in December, ~500 gallons of water was used to flush the waste transfer system after the caustic addition.

FACILITY GENERATIONS		OTHER GAINS ASSOCIATED WITH		OTHER LOSSES ASSOCIATED WITH	
SWL (West)	+129 Kgal (26Y)	SLURRY	+1 Kgal	SLURRY	-5 Kgal
Caustic (NaOH)	+ 9 Kgal (1AY)	CONDENSATE	+7 Kgal	CONDENSATE	-8 Kgal
Tank Farms	+ 1 Kgal (4AW)	INSTRUMENTATION	+13 Kgal	INSTRUMENTATION	-0 Kgal
TOTAL:	+139 Kgal	UNKNOWN	+1 Kgal	UNKNOWN	-12 Kgal
		TOTAL=	+23 Kgal	TOTAL=	-23 Kgal

	ACTUAL DST WASTE RECEIPTS	PROJECTED DST WASTE RECEIPTS (1)	MISC. DST CHANGES (+/-)	PROJECTED WVR (1)	NET DST CHANGE	TOTAL DST VOLUME
OCT00	222	155	-24	0	198	20653
NOV00	261	262	-14	0	247	20900
DEC00	139	300	-1	0	138	21038
JAN01		397		0		
FEB01		303		0		
MAR01		-283		-684		
APR01		321		0		
MAY01		302		0		
JUN01		334		0		
JUL01		296		0		
AUG01		289		0		
SEP01		282		0		

(1): The "PROJECTED DST WASTE RECEIPTS" and "WVR" numbers were updated in November 2000, the projected volumes will be updated as new and/or more accurate information is obtained. The projected volumes reported are the most current available, as supplied by cognizant engineers.

Campaign 94-1 (04/15/94 - 06/13/94)	-2417
Campaign 94-2 (09/22/94 - 11/18/94)	-2787
Campaign 95-1 (06/09/95 - 07/28/95)	-2161
Campaign 96-1 (05/07/96 - 05/25/96)	-1117
Campaign 97-1 (03/24/97 - 04/02/97)	-351
Campaign 97-2 (09/16/97 - 09/30/97)	-853
Campaign 99-1 (07/24/99 - 08/15/99)	-818
Campaign 00-1 (04/20/00 - 05/05/00)	-882
Total waste reduction (WVR) since restart on 4/15/94	-10966

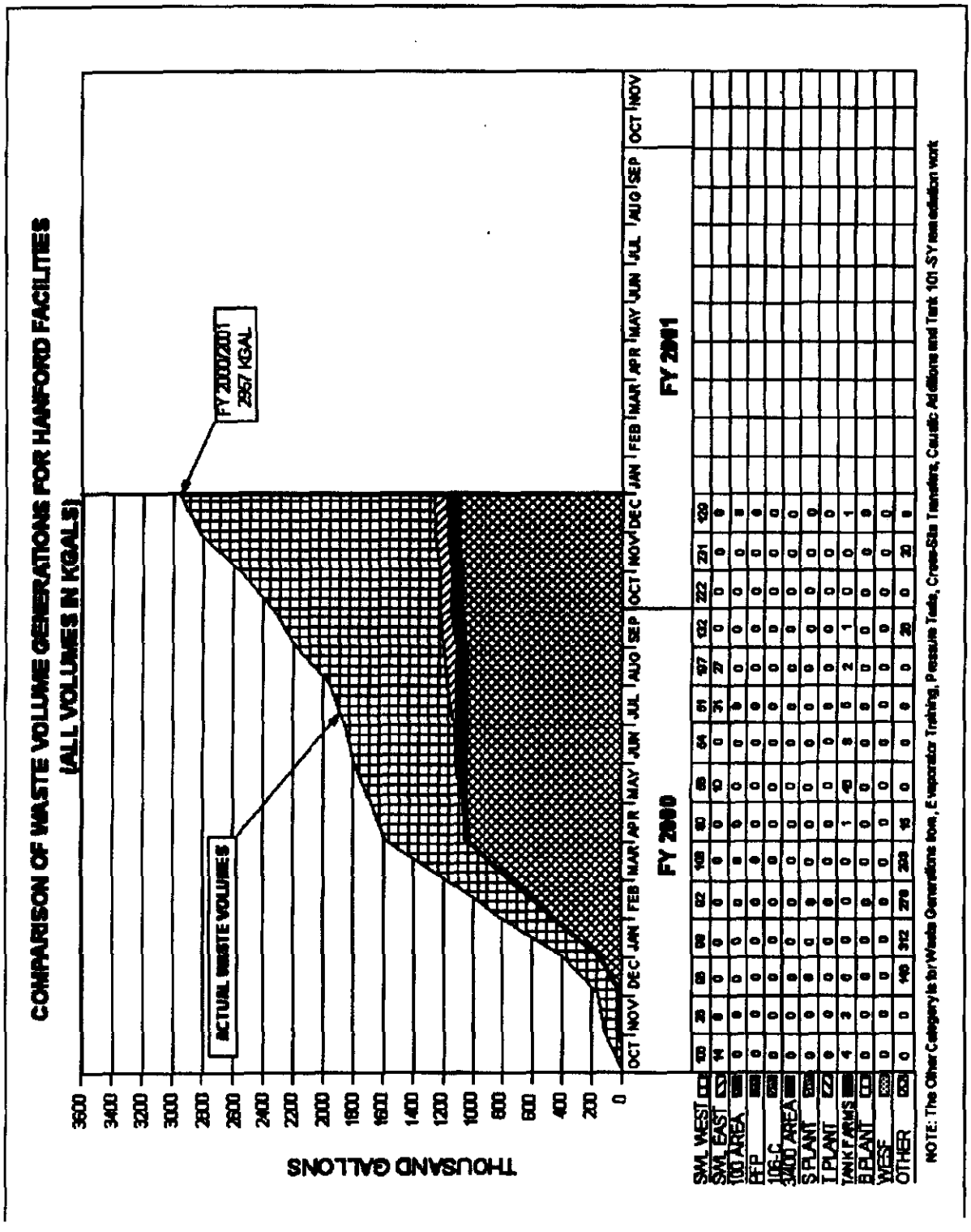


Figure B-1. Comparison of Projected Versus Actual Waste Volumes for Hanford Facilities

APPENDIX C

DOUBLE-SHELL TANK WASTE TYPE AND SPACE ALLOCATION

Table C-1. Double-Shell Tank Waste Inventory - December 31, 2000

TOTAL AVAILABLE DST SPACE	
NON-AGING =	27560
AGING =	3920
TOTAL=	31480

MONTHLY INVENTORY CHANGE	
11/00 TOTAL	20900
12/00 TOTAL	21038
CHANGE=	139

TANK NAME	WASTE TYPE	TOTAL INVENTORY (1)	TOTAL SUPERNATE	TOTAL SOLIDS (3)	SALTCAKE (2)	SALTCAKE LIQUID	SLUDGE (2)	SLUDGE LIQUID	REMAINING UNUSED TANK SPACE
241-AN-101	DN	224	224	0	0	0	0	0	916
241-AN-102	CC	1062	983	80	80	22	0	0	68
241-AN-103	DSS	956	489	467	467	114	0	0	184
241-AN-104	DSSF	1052	603	449	449	112	0	0	68
241-AN-105	DSSF	1126	630	496	496	122	0	0	12
241-AN-106	CC	38	21	17	17	4	0	0	1102
241-AN-107	CC	1041	794	247	247	82	0	0	89
241-AP-101	DSSF	1114	1114	0	0	0	0	0	26
241-AP-102	CP	1089	1089	0	0	0	0	0	51
241-AP-103	CC	282	282	0	0	0	0	0	858
241-AP-104	CC	1109	1109	0	0	0	0	0	31
241-AP-105	DSSF	1135	1046	89	89	22	0	0	5
241-AP-106	DC	623	623	0	0	0	0	0	517
241-AP-107	DC	976	976	0	0	0	0	0	164
241-AP-108	DN	32	32	0	0	0	0	0	1108
241-AW-101	DSSF	1127	752	375	375	94	0	0	13
241-AW-102	DN	64	34	30	30	6	0	0	1076
241-AW-103	NCRW	509	146	363	47	13	316	78	631
241-AW-104	DN	1118	887	231	231	58	0	0	22
241-AW-105	NCRW	427	172	255	0	0	255	34	713
241-AW-106	DSSF	739	509	230	230	60	0	0	401
241-AY-101	DC	157	49	108	0	0	108	18	823
241-AY-102	DN	579	395	184	0	0	184	29	401
241-AZ-101	NCAW	917	865	82	0	0	82	6	63
241-AZ-102	NCAW	997	892	105	0	0	105	18	0
241-SY-101	CC	871	808	63	63	21	0	0	188
241-SY-102	DC	830	759	71	0	0	71	11	310
241-SY-103	CC	742	379	363	363	82	0	0	398
		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NOTE: All Volumes in Kilo-Gallons (Kgals)
(1) Total Inventory = (Total Supernate + Total Solids)
(2) Saltcake includes Saltcake Liquids; Sludge includes Sludge Liquid
(3) Total Solids = (Saltcake + Sludge)

Tank Space Usage

TANK SPACE CHANGE	
11/00 TANK SPACE	10396
12/00 TANK SPACE	10286
CHANGE=	-139

OPERATIONAL SPACE	
AP-108=	1108
AW-102=	1076
AW-105=	713
AW-106=	401
SY-102=	310
TOTAL=	3608

RESTRICTED SPACE	
AN-102=	68
AN-107=	89
AP-102=	51
AZ-101=	63
AZ-102=	0
TOTAL=	271

WATCH LIST SPACE	
AN-103=	184
AN-104=	68
AN-105=	12
AW-101=	13
SY-101=	188
SY-103=	398
TOTAL=	864

NON-ALLOCATED SPACE	
AN-101=	916
AN-106=	1102
AP-101=	26
AP-103=	858
AP-104=	31
AP-105=	5
AP-106=	517
AP-107=	164
AW-103=	631
AW-104=	22
AY-101=	823
AY-102=	401
TOTAL=	5496
EMERGENCY SPACE	-1140
LAW or HLW RETURN	-1140
REMAINING SPACE	3209

Inventory Calculation by Waste Type:

DILUTE SUPERNATE (DN)	
AN-101=	224
AP-108=	32
AW-102=	34
AW-103=	146
AW-104=	887
AW-105=	172
AY-102=	395
TOTAL DN=	1890
TOTAL SOLIDS=	1069

SLURRY SUPERNATE (DSS/DSSF)	
AN-103=	489
AN-104=	603
AN-105=	630
AP-101=	1114
AP-105=	1046
AW-101=	752
AW-106=	509
TOTAL DSS/DSSF=	5153
TOTAL SOLIDS=	2060

COMPLEXED SUPERNATE (DC/CC)	
AN-102=	983
AN-106=	21
AN-107=	794
AP-103=	282
AP-104=	1109
AP-106=	623
AP-107=	976
AY-101=	49
SY-101=	808
SY-102=	759
SY-103=	379
TOTAL DC/CC=	5696
TOTAL SOLIDS=	1061

AGING SUPERNATE (AW)	
AZ-101=	865
AZ-102=	892
TOTAL AW=	1757
TOTAL SOLIDS=	187

PHOSPHATE SUPERNATE (CP)	
TOTAL CP=	1089

DST SLUDGE / SALTCAKE LIQUID			
AN-102=	22	AW-104=	58
AN-103=	114	AW-105=	34
AN-104=	112	AW-106=	60
AN-105=	122	AY-101=	18
AN-106=	4	AY-102=	29
AN-107=	82	AZ-101=	6
AP-105=	22	AZ-102=	18
AW-101=	94	SY-101=	21
AW-102=	6	SY-102=	11
AW-103=	91	SY-103=	82
TOTAL SLUDGE / SALTCAKE LIQUID=			987

GRAND TOTALS	
DILUTE SUPERNATE (DN/DC) =	4256
SLURRY (DSS/DSSF)=	5153
CONCENTRATED COMPLEXED (CC)=	4482
CONCENTRATED PHOSPHATE (CP)=	1089
AGING SUPERNATE (AW)=	1757
DST SOLIDS (NO LIQUID)=	3302
DST SLUDGE / SALTCAKE LIQUID=	987
TOTAL=	21038

Table C-2. Double-Shell Tank Waste Inventory - December 31, 2000

TOTAL AVAILABLE USABLE AS OF DECEMBER 31, 2000=			10259 KGALS
WATCH LIST TANK SPACE:	**TANK**	**WASTE TYPE**	**AVAILABLE SPACE**
Unusable DST Headspace - Due to Special Restrictions Placed on the Tanks, as Stated in the "Wyden Bill"	AN-103	DSS	184 KGALS
	AN-104	DSSF	88 KGALS
	AN-105	DSSF	12 KGALS
	AW-101	DSSF	13 KGALS
	SY-101	CC	169 KGALS
	SY-103	CC	398 KGALS
		TOTAL=	864 KGALS
		AVAILABLE TANK SPACE=	10259 KGALS
		MINUS WATCH LIST SPACE=	-864 KGALS
		TOTAL AVAILABLE SPACE AFTER WATCH LIST SPACE DEDUCTIONS=	9395 KGALS
RESTRICTED TANK SPACE:	**TANK**	**WASTE TYPE**	**AVAILABLE SPACE**
DST Headspace Available to Store Only Specific Waste Types	AN-102	CC	88 KGALS
	AN-107	CC	99 KGALS
	AP-102	CP	51 KGALS
	AZ-101	AW	63 KGALS
	AZ-102	AW	0 KGALS
		TOTAL=	301 KGALS
		AVAILABLE SPACE AFTER WATCH LIST SPACE DEDUCTIONS=	9395 KGALS
		MINUS RESTRICED SPACE=	-301 KGALS
		TOTAL AVAILABLE SPACE AFTER RESTRICTED SPACE DEDUCTIONS=	9094 KGALS
OPERATIONAL TANK SPACE	**TANK**	**WASTE TYPE**	**AVAILABLE SPACE**
DST Headspace Available For Facility Generated Waste and 242-A Evaporator Operations	AP-108	DN	1108 KGALS
	AW-102	DN	1076 KGALS
	AW-105	NCRW	713 KGALS
	AW-106	DSSF	401 KGALS
	SY-102	DC	310 KGALS
		TOTAL=	3608 KGALS
		AVAILABLE SPACE AFTER RESTRICTED SPACE DEDUCTIONS=	9094 KGALS
		MINUS OPERATIONAL SPACE=	-3608 KGALS
		TOTAL AVAILABLE SPACE AFTER OPERATIONAL SPACE DEDUCTIONS=	5486 KGALS
NON-ALLOCATED TANK SPACE	**TANK**	**WASTE TYPE**	**AVAILABLE SPACE**
Non-Allocated DST Headspace	AN-101	DN	916 KGALS
	AN-106	CC	1102 KGALS
	AP-101	DSSF	26 KGALS
	AP-103	CC	858 KGALS
	AP-104	CC	31 KGALS
	AP-105	DSSF	5 KGALS
	AP-106	DC	517 KGALS
	AP-107	DC	154 KGALS
	AW-103	NCRW	631 KGALS
	AW-104	DN	22 KGALS
	AY-101	DC	823 KGALS
	AY-102	DN	401 KGALS
		TOTAL NON-ALLOCATED TANK SPACE=	6486 KGALS
		EMERGENCY TANK SPACE	-1140 KGALS
		LAW or HLW RETURN SPACE:	-1140 KGALS
		TOTAL TANK SPACE AVAILABLE AFTER ALL DEDUCTIONS	3206 KGALS

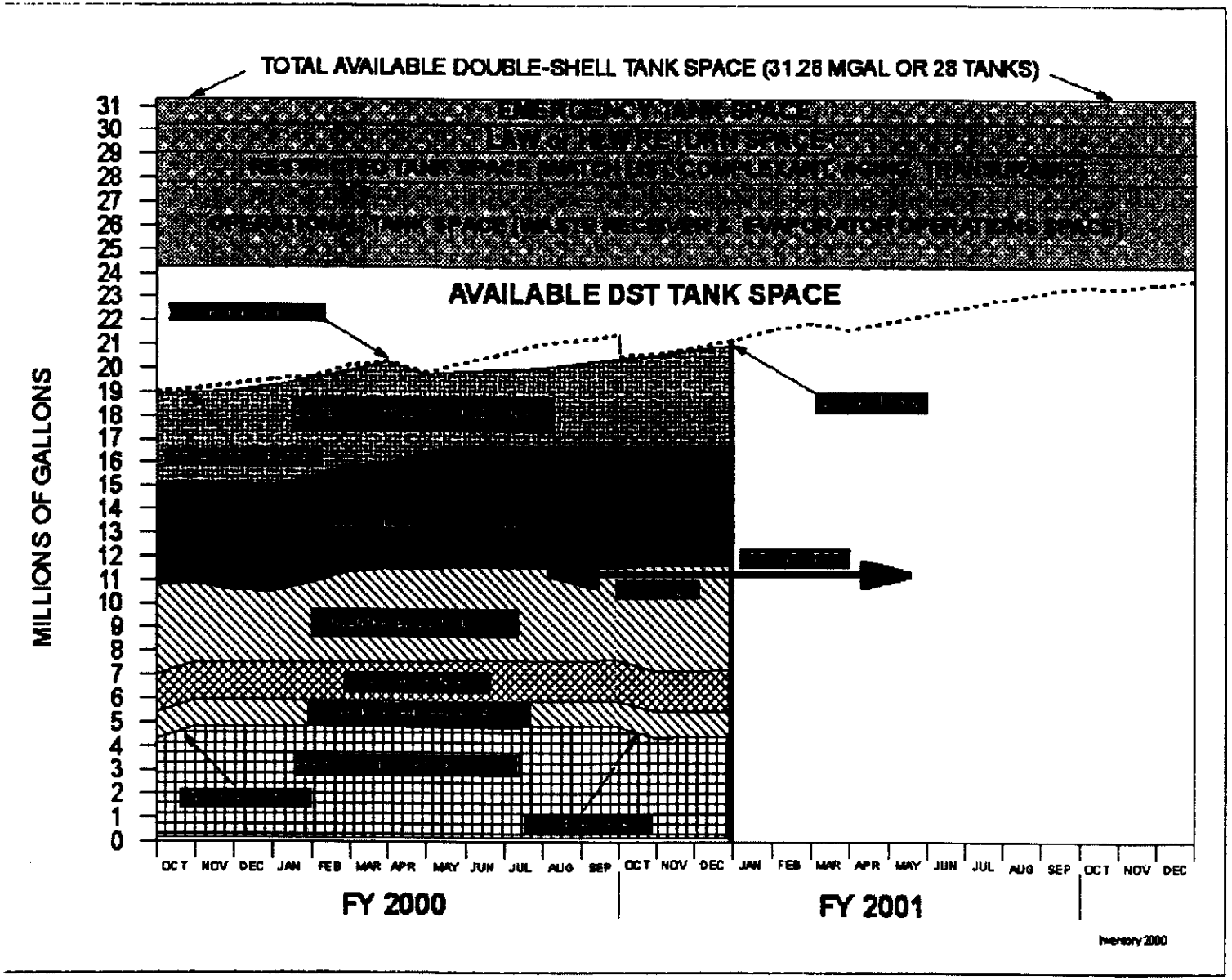


Figure C-1. Total Double-Shell Tank Inventory

APPENDIX D

WASTE TANK SURVEILLANCE MONITORING TABLES

TABLE D-1. TEMPERATURE MONITORING IN WATCH LIST TANKS (Sheet 1 of 2)

December 31, 2000

These tanks have been identified as Watch List Tanks in accordance with Public Law 101-510, Section 3137, *"Safety Measures for Waste Tanks at Hanford Nuclear Reservation,"* (1990), because they "... may have a serious potential for release of high-level waste due to uncontrolled increases in temperature or pressure."

All Watch List tanks are reviewed for increasing temperature trends. Temperatures in these tanks are monitored by the Tank Monitor And Control System (TMACS), unless indicated otherwise.

Temperatures are taken in the waste unless in-waste thermocouples are out of service. Temperatures below are the highest temperatures recorded in these tanks during this month.

Temperatures in Degrees F.

HYDROGEN (FLAMMABLE GAS)

Single-Shell Tanks

Tank No.	Temp.	Officially Added to Watch List
A-101	144	1/91
AX-101	128	1/91
AX-103	108	1/91
S-102	99	1/91
S-111	89	1/91
S-112	84	1/91
SX-101	130	1/91
SX-102	140	1/91
SX-103	157	1/91
SX-104	138	1/91
SX-105	161	1/91
SX-106	99	1/91
SX-109 (1)	135	1/91
T-110	64	1/91
U-103	88	1/91
U-105	89	1/91
U-107	78	12/93
U-108	86	1/92
U-109	85	1/91
[illegible]		

Double-Shell Tanks

Tank No.	Temp.	Officially Added to Watch List
AN-103	105	1/91
AN-104	105	1/91
AN-105	101	1/91
AW-101	100	6/93
SY-101	95	1/91
SY-103	95	1/91
[illegible]		

19 Single-Shell Tanks
6 Double-Shell Tanks
25 Tanks on Watch List

All tanks were removed from the Ferrocyanide Watch List and 18 tanks from the Organics Watch List.
Tank C-106 was removed from the High Heat Load Watch List on December 16, 1999.
The remaining two tanks (C-102 and C-103) were removed from the Organics Watch List in August 2000.

TABLE D-1. TEMPERATURE MONITORING IN WATCH LIST TANKS
(sheet 2 of 2)

Notes:

Unreviewed Safety Question (USQ):
When a USQ is declared, special controls are required, and work in the tanks is limited. There are currently no USQs on single-shell tanks. The USQ on double-shell tank SY-101 for liquid level increases was closed on November 30, 2000.

Hydrogen/Flammable Gas:
These tanks are suspected of having a significant potential for hydrogen/flammable gas generation, entrapment, and episodic release. The USQ associated with these tanks was closed in September 1998. Twenty-five tanks (19 SST and 6 DST) remain on the Hydrogen Watch List.

Organic Salts:
These tanks contain concentrations of organic salts ≥3 weight% of total organic carbon (TOC)(equivalent to 10 wt% sodium acetate). The USQ associated with these tanks was closed in October 1998, and 18 organic complexant tanks were removed from the Organic Watch List in December 1998. The remaining two organic salts tank (C-102 and C-103) were removed from the Organic Watch List in August 2000.

High Heat:
These tanks contain heat generating strontium-rich sludge and require drainable liquid to be maintained in the tank to promote cooling. There are currently nine tanks on the High Heat Load List but no tanks on the High Heat Load Watch List.

Active ventilation:
There are 15 single-shell tanks on active ventilation (seven are on the Watch List as indicated by an asterisk):

C-105	SX-107
C-106 (2)	SX-108
SX-101 *	SX-109 * (1)
SX-102 *	SX-110
SX-103 *	SX-111
SX-104 *	SX-112
SX-105 *	SX-114
SX-106 *	

Footnotes:

(1) Tank SX-109 is on the Hydrogen Watch List as it has the potential for flammable gas accumulation only because other SX tanks vent through it.

(2) Tank C-106 was removed from the High Heat Load Watch List on December 16, 1999.

(3) Tanks C-102 and C-103 were removed from the Organics Salts Watch List on August 23, 2000.

TABLE D-2. TEMPERATURE MONITORING IN NON-WATCH LIST TANKS
December 31, 2000

SINGLE-SHELL TANKS WITH HIGH HEAT LOADS (>26,000 Btu/hr)

Nine tanks have high heat loads for which temperature surveillance requirements are established by HNF-SD-WM-TSR-006, Rev 1, *Tank Waste Remediation System Technical Safety Requirements,* December 1999. In an analysis, WHC-SD-WM-SARR-010, Rev 1, *Heat Removal Characteristics of Waste Storage Tanks,* Kummerer, 1995, it was estimated that nine tanks have heat sources >26,000 Btu/hr, which is the new parameter for determining high heat load tanks. See also document HNF-SD-WM-BIO-001, Rev 1, *Tank Waste Remediation System Basis for Interim Operation,* Noorani, 1998.

Temperatures in these tanks did not exceed TSR requirements for this month, and are monitored by the Tank Monitor and Control System (TMACS), unless indicated otherwise. All high heat load tanks are on active ventilation.

Tank No.	Temperature (F.)	
C-106 (1)	60	(Riser #8)
SX-103	157	
SX-107	165	
SX-108	182	
SX-109 (2)	135	
SX-110	164	
SX-111	184	
SX-112	148	
SX-114	175	

Notes:

(1) C-106 was removed from the High Heat Load Watch List on December 16, 1999. The final thermal analysis report, RPP-6463, Rev. 0, "Thermal Analysis for Tanks 241-AY-102 and C-106," was issued August 9, 2000. The report concluded that the best estimate heat load for C-106 is between 7,000 and 11,000 Btu/hr. Although it no longer meets the criteria for a high heat load tank, it will take an AB change to revise the temperature control limits and monitoring frequency. The AB Amendment request is pending review by ORP.

(2) SX-109 is on the Hydrogen Watch List as it has the potential for flammable gas accumulation only because the other SX tanks vent through it.

SINGLE-SHELL TANKS WITH LOW HEAT LOADS (<26,000 Btu/hr)

There are 114 low heat load non-watch list tanks. Temperatures in tanks connected to TMACS are monitored by TMACS; temperatures in those tanks not yet connected to TMACS are manually taken semiannually in January and July. Temperatures obtained semiannually have been within historical ranges for the applicable tank.

No temperatures have been obtained for several years in the tanks listed below. Most of these tanks have no thermocouple tree.

Tank No.	Tank No.
BX-104	TX-101
BY-102	TX-110
BY-109	TX-114
C-204	TX-116
SX-115	TX-117
T-102	U-104
T-105	

TABLE D-3. ADDITIONS/DELETIONS TO WATCH LISTS BY YEAR
December 31, 2000

Added/Deleted dates may differ from dates that tanks were officially added to the Watch Lists. (See Table A-1).

	Ferrocyanide	Hydrogen	Organics	High Heat	SST	DST	Total
Added 7/91 (revision to Original List)	1 T-107				1		1
Added 5/92		1 AW-101				1	1
Added 3/93			1 U-111		1		1
Deleted 7/93	-4 (BX-110) (BX-111) (BY-101) (T-101)				-4		
Added 12/93		1 (U-107)			0		
Added 2/94			1 T-111		1		
Added 5/94			10 A-101 AX-102 C-102 S-111 SX-103 TY-104 U-103 U-105 U-203 U-204		4		
Deleted 11/94	-2 (BX-102) (BX-106)				-2		
Deleted 6/96	-4 (C-108) (C-109) (C-111) (C-112)				-4		
Deleted 9/96	-14 (BY-103) (BY-104) (BY-105) (BY-106) (BY-107) (BY-108) (BY-110) (BY-111) (BY-112) (T-107) (TX-118) (TY-101) (TY-103) (TY-104)				-12		
Deleted 12/98			-18 (A-101) (AX-102) (S-103) (S-102) (S-111) (SX-103) (SX-106) (T-111) (TX-105) (TX-118) (TY-104) (U-103) (U-105) (U-106) (U-107) (U-111) (U-203) (U-204)		-10		
Deleted 12/99				-1 (C-106)	-1		
Deleted 08/00			-1 (C-102)		-1		
			-1 (C-103)		-1		

Eighteen of the 20 tanks were removed from the Organics Watch List in December 1998; the last two were removed August 2000; eight of the eighteen tanks are still on the Hydrogen Watch List, which is the only remaining Watch List.

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS

149 TANKS (Sheet 1 of 6)

December 31, 2000

The following table indicates whether Single-Shell tank monitoring was in compliance with the requirements as specified in the applicable documents as of the last day of the applicable month:

NOTE:
All Watch List and High Heat tank temperature monitoring is in compliance. (4)
All Dome Elevation Survey monitoring is in compliance
All Psychrometrics monitoring is in compliance (2).
Drywell monitoring no longer required (5).
In-tank photos/videos are taken "as needed"

LEGEND:	
	= In compliance with all applicable documentation
N/C	= noncompliance with applicable documentation
O/S	= Out of Service
Neutron	= LOW readings taken by Neutron probe
POP	= Plant Operating Procedure, TO-040-650
MT/FIC/ ENRAF	= Surface level measurement devices
OSD	= Operating Spec. Doc., OST-T-151-00013, 00030, 00031
N/A	= Not applicable (not monitored, or no monitoring schedule)
None	= Applicable equipment not installed
FSAR/TSR	= Final Safety Analysis Report/Technical Safety Requirements

Tank Number	Tank Category		Temperature Readings (4)	Primary Leak Detection Source (5)	Surface Level Readings (1) (OSD)			LOW Readings (OSD)(5,7)
	Watch List	High Heat			MT	FIC	ENRAF	Neutron
A-101				LOW				
A-102				None				
A-103				LOW				
A-104				None				
A-105				None				
A-106				None				
AX-101				LOW				
AX-102				None				
AX-103				None				
AX-104				None				
B-101				None				
B-102				ENRAF				
B-103				None				
B-104				LOW				
B-105				LOW				
B-106				ENRAF				
B-107				None				
B-108				None				
B-109				None				
B-110				LOW				
B-111				LOW				
B-112				ENRAF				
B-201				ENRAF				
B-202				ENRAF				
B-203				ENRAF				
B-204				ENRAF				
BX-101				ENRAF				
BX-102				None				
BX-103				ENRAF				
BX-104				ENRAF				
BX-105				None				
BX-106				ENRAF				
BX-107				ENRAF				

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS

149 TANKS (Sheet 2 of 6)

Tank Number	Tank Category		Temperature Readings (4)	Primary Leak Detection Source (5)	Surface Level Readings (1) (OSD)			LOW Readings (OSD)(5,7)
	Watch List	High Heat			MT	FIC	ENRAF	Neutron
BX-108				None				
BX-109				None				
BX-110				None				
BX-111				LOW				
BX-112				ENRAF				
BY-101				LOW				
BY-102				LOW				
BY-103				LOW				
BY-104				LOW				
BY-105				LOW				
BY-106				LOW				
BY-107				LOW				
BY-108				None				
BY-109				LOW				
BY-110				LOW				
BY-111				LOW				
BY-112				LOW				
C-101				None				
C-102 (10)				None				
C-103 (10)				ENRAF				
C-104				None				
C-105				None				
C-106 (3)				ENRAF				
C-107				ENRAF				
C-108				None				
C-109				None				
C-110				MT				
C-111				None				
C-112				None				
C-201				None				
C-202				None				
C-203				None				
C-204				None				
S-101				ENRAF				
S-102				LOW				
S-103				ENRAF				
S-104				LOW				
S-105				LOW				
S-106				LOW				
S-107				ENRAF				
S-108				LOW				
S-109				LOW				
S-110				LOW				
S-111				ENRAF				
S-112				LOW				
SX-101				LOW				
SX-102				LOW				
SX-103				LOW				
SX-104				LOW				
SX-105				LOW				
SX-106				LOW				
SX-107				None				
SX-108				None				

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS

149 TANKS (Sheet 3 of 6)

Tank Number	Tank Category		Temperature Readings (4)	Primary Leak Detection Source (5)	Surface Level Readings (1) (OSD)			LOW Readings (OSD)(5,7)
	Watch List	High Heat			MT	FIC	ENRAF	Neutron
SX-108				None				
SX-110				None				
SX-111				None				
SX-112				None				
SX-113				None				
SX-114				None				
SX-115				None				
T-101				None				
T-102				ENRAF				
T-103				None				
T-104				LOW				
T-105				None				
T-106				None				
T-107				ENRAF				
T-108				ENRAF				
T-109				None				
T-110				LOW				
T-111				LOW				
T-112				ENRAF				
T-201				MT				
T-202				MT				
T-203				None				
T-204				MT				
TX-101				ENRAF				
TX-102				LOW				
TX-103				None				
TX-104				None				
TX-105				None				
TX-106				LOW				
TX-107				None				
TX-108				None				
TX-109				LOW				
TX-110				LOW				
TX-111				LOW				
TX-112				LOW				
TX-113				LOW				
TX-114				LOW				
TX-115				LOW				
TX-116				None				
TX-117				LOW				
TX-118				LOW				
TY-101				None				
TY-102				ENRAF				
TY-103				LOW				
TY-104				ENRAF				
TY-105				None				
TY-106				None				
U-101				MT				
U-102				LOW				
U-103				LOW				
U-104				None				
U-105				LOW				
U-106				LOW				

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS
149 TANKS (Sheet 4 of 6)

Tank Number	Tank Category		Temperature Readings (4)	Primary Leak Detection Source (5)	Surface Level Readings (1) (OSD)			LOW Readings (OSD)(5,7)
	Watch List	High Heat			MT	FIC	ENRAF	Neutron
U-107				ENRAF				
U-108				LOW				
U-109				LOW				
U-110				None				
U-111				LOW				
U-112				None				
U-201				MT				
U-202				MT				
U-203				None				
U-204				ENRAF				
Catch Tanks and Special Surveillance Facilities								
A-302-A								
A-302-B								
ER-311								
AX-152								
AZ-151								
AZ-154								
BX-TK/SMP								
A-244 TK/SMP								
AR-204								
A-417								
A-350								
CR-003								
Vent Sta.								
244-S TK/SMP								
S-302								
S-304								
TX-244 TK/SMP								
TX-302-B								
TX-302-C								
U-301-B								
UX-302-A								
S-141								
S-142								
Totals:	19	9	N/C: 0		N/C: 0	N/C: 0	N/C: 0	N/C: 0
149 tanks	Hydrogen Watch List Tanks	High Heat Tanks (non-Watch List)						

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS -149 TANKS
(Sheet 5 of 6)

Footnotes:

1. All SSTs have either manual tape, FIC, or ENRAF surface level measuring devices. Some also have zip cords.

   ENRAF gauges are being installed to replace FICs (or sometimes manual tapes). The ENRAF gauges are being connected to TMACS, but many are currently being read manually from the field. See Table D-6 for list of ENRAF installations.

2. High heat tanks have active exhausters; psychrometrics can be taken in the high heat tanks. Psychrometric readings are taken on an "as needed" basis with the exception of tanks C-105 and C-106. Document OSD-T-151-00013 requires psychrometric readings to be taken in C-105 and C-106 on a monthly frequency when the ventilation system is running. Psychrometric readings were not taken in C-105/106 in May 2000. Discrepancy Report 00-880 was issued August 3, 2000, stating a work package was not prepared due to an oversight during personnel transition. Notification to DOE-RL to discontinue psychrometric data collection in C-105/C-106 was submitted in July 1998; this was not responded to by DOE; therefore the discontinuance of psychrometrics was not incorporated into OSD-T-151-00013. Since the issuance of the Discrepancy Report, an additional request has been made to DOE; as soon as a response is received, the requirement to take psychrometrics will be deleted from the OSD. The *Environmental Protection Agency does not require that psychrometrics be taken.*

   Psychrometric readings previously taken monthly in SX-farm will now be taken annually.

3. Tank C-106 was removed from the High Heat Load Watch List on December 16, 1999.

4. Temperature readings may be regulated by OSD, POP, or FSAR (FSAR only regulates high heat load tanks). Temperatures cannot be obtained in 13 low heat load tanks (see Table D-2). The OSD does not require readings or repair of out-of-service thermocouples for the low heat load (≤26,000 Btu/h) tanks. However, the POP requires that attempts are to be made semiannually in January and July to obtain readings for these tanks.

   Temperatures in some tanks cannot be taken in the waste because the waste level is lower than the lowest thermocouple in these trees.

   Temperatures for many tanks are monitored continuously by TMACS; see Table D-7, TMACS Monitoring Status.

5. Document OSD-T-151-00031, "Operating Specifications for Tank Farm Leak Detection," REV C-0, January 13, 1999, requires that single-shell tanks with the surface level measurement device contacting liquid, partial liquid, or floating crust surface, will be monitored for leak detection on a daily basis. Tanks with a solid surface will be monitored for leak detection on a weekly basis by taking neutron scan data from a Liquid Observation Well (LOW), *if an LOW is present. Tanks with a solid surface but without LOWs will not be monitored for leak detection if the* tank has been interim stabilized, until an LOW is installed. The OSD specifies what leak detection methods are to be used for each tank, and the requirements if the readings are not taken on the required frequency or if equipment is out of service.

   This OSD revision does not require drywell surveys to be taken: drywell scans will only be taken under extreme conditions; any scans would have to be subcontracted, as the contractor no longer has vans.

6. Leak detection for the catch tanks is performed by monitoring for the buildup of liquid in the secondary containment (for most tanks with secondary containment) or for decrease in the liquid level for those tanks without secondary containment or secondary containment monitoring.

TABLE D-4. SINGLE-SHELL TANKS MONITORING COMPLIANCE STATUS - 149 TANKS
(Sheet 6 of 6)

Catch tank 240-S-302 is monitored for intrusions only, and is not subject to leak detection monitoring requirements until liquid is present above the intrusion level.

Weight Factor is the surface level measuring device currently used in A-417, A-350, 244-A Tank/Sump, and 244-S Tank/Sump. DCRT CR-003 is inactive and measured in gallons. 204-AR is also measured in gallons.

7. Document SD-WM-TI-605, REV. 0, dated January 1994, describes the rationale for Liquid Observation Well (LOW) installation priority. This priority is based on tank leak status, tank surface condition, and tank stabilization status. Also included is a listing of tanks with the waste level being below two feet, which have no priority assigned because no effort will be made to install LOWs in the near future. LOW probes are unable to accurately monitor interstitial liquid levels less than two feet high.

   Tanks which will not receive LOWs:

A-102	BX-101	C-201	T-106
A-104	BX-103	C-202	T-108
A-105	BX-105	C-203	T-109
AX-102	BX-106	C-204	TX-107
AX-104	BX-108	SX-110	TY-102
B-102	C-108	SX-113	TY-104
B-103	C-109	SX-115	TY-106
B-112	C-111	T-102	U-101
		T-103	U-112

   Total - 34 Tanks

8. Tank TX-105 - the LOW was in riser 8; the riser has been removed and the LOW has not been monitored since January 1987. Liquid levels are being taken in riser 9 by ENRAF and recorded in TMACS.

9. Tank AX-101 - LOW readings are taken by gamma sensors.

10. Tanks C-102 and C-103 were removed from the Organics Salts Watch List on August 23, 2000

11. Tank SX-105 - LOW scan not taken for week ending August 28, 2000. LOW is primary leak detection device; ENRAF is backup and monitored daily in TMACS. LOW has failed structurally, and will be replaced. Work Package 2H0005040. **Fabrication shop is working on making new well; approximate completion date is January 2001. (Tank is being saltwell pumped).**

12. Tank B-110 - LOW scan not taken for week ending October 9, 2000. LOW is primary leak detection device; no stated backup, so device must be repaired in 14 days or an alternative device used to obtain a valid reading before an OSD violation occurs. Discrepancy Report 00-884 (Rev 1) issued October 11, 2000. The LOW is being grouted per 2W-00-01303 so that readings can be obtained. Work Package 2H0105391 will replace LOW well at a later date. **The grouting and decontamination attempts done November and December 2000 were unsuccessful; LOW well will be replaced.**

TABLE D-5. DOUBLE-SHELL TANKS MONITORING COMPLIANCE STATUS

28 TANKS (Sheet 1 of 2)
December 31, 2000

The following table indicates whether Double-Shell tank monitoring was in compliance with the requirements as specified in the applicable documents as of the last day of the applicable month.

NOTE:

Dome Elevation Surveys are not required for DSTs.

Psychrometrics and in-tank photos/videos are taken "as needed" (2)

LEGEND:	
	= In compliance with all applicable documentation
N/C	= Noncompliance with applicable documentation
FIC/ENRAF M.T.	= Surface level measurement devices
OSD	= OSD-T-151-0007, OSD-T-151-00031
None	= no M.T., FIC or ENRAF installed
O/S	= Out of Service
W.F.	= Weight Factor
N/A	= Not Applicable (not monitored or no monitoring schedule)
Rad.	= Radiation

Tank Number	Watch List	Temperature Readings (3) (OSD)	Surface Level Readings (1) (OSD)			Radiation Readings: Leak Detection Pits (4) (OSD)		Annulus (OSD)
			M.T.	FIC	ENRAF	W.F.	Rad. (6)	
AN-101								
AN-102								
AN-103								
AN-104								
AN-105								
AN-106								
AN-107								
AP-101								
AP-102								
AP-103								
AP-104								
AP-105								
AP-106								
AP-107								
AP-108								
AW-101								
AW-102								
AW-103								
AW-104								
AW-105								
AW-106								
AY-101								
AY-102								
AZ-101								
AZ-102								
SY-101								
SY-102								
SY-103								
Totals: 28 tanks	6 Watch List Tanks	N/C: 0	N/C: 0	N/C: 0	N/C: 0	N/C: 0	N/C: 0	N/C: 0

TABLE D-5. DOUBLE-SHELL TANKS MONITORING COMPLIANCE STATUS - 28 TANKS
(Sheet 2 of 2)

Footnotes:

1. Some double-shell tanks have both FIC and manual tape which is used when the FIC is out of service. Noncompliance (N/C) will be shown when no readings are obtained. ENRAF gauges are being installed to replace FICs. The ENRAF gauges are being connected to TMACS, but some are currently being read manually.

2. Psychrometric readings are taken on an "as needed" basis. No psychrometric readings are currently being taken in the double-shell tanks.

3. OSD specifies double-shell tank temperature limits, gradients, etc.

4. Applicable OSD and HNF-IP-0842, latest revisions, are used as guidelines for monitoring Leak Detection Pits. See also (6) and (7) below.

5. AW-102 has ENRAF, FIC and M.T. At some point the FIC will be removed.

6. USQ TF-97-0038, dated April 28, 1997, specifies discontinuing the use of leak detection pit radiation monitoring equipment in all double-shell tank farms where the leak detection pits are used as tertiary leak detection. This applies to all double-shell tank farms.

7. Leak Detection Pit weekly readings are being obtained by Instrument Technicians in these tanks:
   AP-103C (for tanks AP-101 - 104)
   AP-105C (for tanks AP-105 - 108)

8. SY-103 - Manual Tape has sporadic readings. ENRAF is primary device.
   SY-102 - Manual Tape has sporadic readings. The plummet fell off the M.T. - a work request was written July 31, 2000. ENRAF is primary device.

9. SY-101 - LDP readings are above normal range. EDL #241-SY-99-2 to repair it.
   SY-103 - LDP readings are above normal range. EDL #241-SY-95-5 to repair it.

TABLE D-6. ENRAF SURFACE LEVEL GAUGE INSTALLATION AND DATA INPUT METHODS

December 31, 2000

LEGEND

SACS = Surveillance Analysis Computer System
TMACS = Tank Monitor and Control System
Auto = Automatically entered into TMACS and electronically transmitted to SACS
Manual = Manually entered directly into SACS by surveillance personnel, from Field Data sheets

EAST AREA

Tank No.	Installed Date	Input Method	Tank No.	Installed Date	Input Method
A-101	09/95	Auto	B-201	07/00	Auto
A-102			B-202	07/00	Auto
A-103	07/96	Auto	B-203	06/00	Auto
A-104	05/96	Manual	B-204	06/00	Auto
A-105			BX-101	04/96	Auto
A-106	01/96	Auto	BX-102	06/96	Auto
AN-101	06/96	Auto	BX-103	04/96	Auto
AN-102	06/00	Auto	BX-104	05/96	Auto
AN-103	06/96	Auto	BX-105	03/96	Auto
AN-104	06/95	Auto	BX-106	07/94	Auto
AN-105	06/96	Auto	BX-107	06/96	Auto
AN-106	06/00	Auto	BX-108	05/96	Auto
AN-107	04/00	Auto	BX-109	06/95	Auto
AP-101	06/99	Auto	BX-110	06/96	Auto
AP-102	06/99	Auto	BX-111	05/96	Auto
AP-103	06/99	Auto	BX-112	03/96	Auto
AP-104	07/99	Auto	BY-101		
AP-105	06/99	Auto	BY-102	06/99	Auto
AP-106	06/99	Auto	BY-103	12/96	Auto
AP-107	06/99	Auto	BY-104		
AP-108	06/99	Auto	BY-105		
AW-101	06/95	Auto	BY-106		
AW-102	05/96	Auto	BY-107		
AW-103	05/96	Auto	BY-108		
AW-104	01/96	Auto	BY-109		
AW-105	06/96	Auto	BY-110	02/97	Manual
AW-106	06/96	Auto	BY-111	02/99	Manual
AX-101	09/95	Auto	BY-112		
AX-102	09/96	Auto	C-101		
AX-103	09/95	Auto	C-102		
AX-104	10/96	Auto	C-103	06/94	Auto
AY-101	03/96	Auto	C-104	04/99	Manual
AY-102	01/96	Auto	C-105	05/96	Manual
AZ-101	06/96	Manual	C-106	02/96	Auto
AZ-102			C-107	04/95	Auto
B-101	07/00	Auto	C-108		
B-102	02/95	Auto	C-109		
B-103	07/00	Auto	C-110		
B-104	06/00	Auto	C-111		
B-105	06/00	Auto	C-112	03/96	Manual
B-106	07/00	Auto	C-201		
B-107	06/00	Auto	C-202		
B-108	07/00	Auto	C-203		
B-109	06/00	Auto	C-204		
B-110	07/00	Auto			
B-111	07/00	Auto			
B-112	03/95	Auto			

Total East Area: 70

WEST AREA

Tank No.	Installed Date	Input Method	Tank No.	Installed Date	Input Method
S-101	02/95	Auto	TX-101	11/95	Auto
S-102	05/95	Auto	TX-102	05/96	Auto
S-103	05/94	Auto	TX-103	12/95	Auto
S-104	05/99	Auto	TX-104	03/96	Auto
S-105	07/95	Auto	TX-105	04/96	Auto
S-106	06/94	Auto	TX-106	04/96	Auto
S-107	06/94	Auto	TX-107	04/96	Auto
S-108	07/95	Auto	TX-108	04/96	Auto
S-109	06/95	Auto	TX-109	11/95	Auto
S-110	06/95	Auto	TX-110	05/96	Auto
S-111	06/94	Auto	TX-111	05/96	Auto
S-112	05/95	Auto	TX-112	05/96	Auto
SX-101	04/95	Auto	TX-113	05/96	Auto
SX-102	04/95	Auto	TX-114	05/96	Auto
SX-103	04/95	Auto	TX-115	05/96	Auto
SX-104	05/95	Auto	TX-116	05/96	Auto
SX-105	05/95	Auto	TX-117	06/96	Auto
SX-106	06/94	Auto	TX-118	03/96	Auto
SX-107	09/99	Auto	TY-101	07/96	Auto
SX-108	09/99	Auto	TY-102	09/95	Auto
SX-109	09/98	Auto	TY-103	09/95	Auto
SX-110	09/99	Auto	TY-104	06/95	Auto
SX-111	09/99	Auto	TY-105	12/95	Auto
SX-112	09/99	Auto	TY-106	12/95	Auto
SX-113	09/99	Auto	U-101		
SX-114	09/99	Auto	U-102	01/96	Manual
SX-115	09/99	Manual	U-103	07/94	Auto
SY-101	07/94	Auto	U-104		
SY-102	06/94	Auto	U-105	07/94	Auto
SY-103	07/94	Auto	U-106	06/94	Auto
T-101	06/95	Manual	U-107	06/94	Auto
T-102	06/94	Auto	U-108	06/95	Auto
T-103	07/95	Manual	U-109	07/94	Auto
T-104	12/95	Manual	U-110	01/96	Manual
T-105	07/95	Manual	U-111	01/96	Manual
T-106	07/95	Manual	U-112		
T-107	06/94	Auto	U-201		
T-108	10/95	Manual	U-202		
T-109	06/94	Manual	U-203	09/96	Manual
T-110	05/95	Auto	U-204	06/96	Manual
T-111	07/95	Manual			
T-112	09/95	Manual			
T-201					
T-202					
T-203					
T-204					

Total West Area: 77

147 ENRAFs installed: 125 automatically entered into TMACS, 22 manually entered into SACS

TABLE D-7. TANK MONITOR AND CONTROL SYSTEM (TMACS)

December 31, 2000

Note: Indicated below are the number of tanks having at least one operating sensor monitored by TMACS.

Some tanks have more than one sensor: multiple sensors of the same type in a tank are not shown in the table (for example: 10 tanks in BY-Farm have at least one operating TC sensor and 3 tanks in BY-Farm have at least one operating RTD sensor).

Acceptance Testing Completed: Sensors Automatically Monitored by TMACS

	Temperatures					
EAST AREA Tank Farm	Thermocouple Tree (TC)	Resistance Thermal Device (RTD)	ENRAF Level Gauge	Pressure (b)	Hydrogen (c)	Gas Sample Flow
A-Farm (6 Tanks)	1		3		1	1
AN-Farm (7 Tanks)	7		7	7	3	3
AP-Farm (8 Tanks)			8			
AW-Farm (6 Tanks)	6		6		1	1
AX-Farm (4 Tanks)	3		4		1	
AY-Farm (2 Tanks)			2			
AZ-Farm (2 Tanks)						
B-Farm (16 Tanks)	1		16			
BX-Farm (12 Tanks)	11		12			
BY-Farm (12 Tanks)	10	3	2			
C-Farm (16 Tanks)	15 (f)	1	3	1		
TOTAL EAST AREA (91 Tanks)	54	4	83	8	6	5
WEST AREA						
S-Farm (12 Tanks)	12		12	1	3	1 (e)
SX-Farm (15 Tanks)	14		14	1	7	5 (e)
SY-Farm (3 Tanks) (a)	3		3	1	2	2
T-Farm (16 Tanks)	14	1	3 (d)		1	(e)
TX-Farm (18 Tanks)	13		18			
TY-Farm (6 Tanks)	6	3	6			
U-Farm (16 Tanks)	15		6	4	6	6
TOTAL WEST AREA (86 Tanks)	77	4	82	7	19	19
TOTALS (177 Tanks)	131	8	125	15	25	24

(a) Tank SY-101 has 2 gas sample flow sensors plus 2 vent flow sensors, and 2 ENRAFs.
(b) Each tank has two sensors (high and low range).
(c) Each tank has two sensors (high and low range).
(d) T-107 - Auto ENRAF O/S, manual readings taken daily
(e) S, SX, and T-Farms - five gas sample flow sensors have been unhooked or removed. Will eventually use SHMS equipment on other tanks but none scheduled yet.
(f) C-105 acromag needs replacing. Manual readings are taken weekly.

APPENDIX E

MISCELLANEOUS UNDERGROUND STORAGE TANKS AND SPECIAL SURVEILLANCE FACILITIES

TABLE E-1. EAST AND WEST AREA MISCELLANEOUS UNDERGROUND STORAGE TANKS AND SPECIAL SURVEILLANCE FACILITIES

ACTIVE - still running transfers through the associated diversion boxes or pipeline encasements

December 31, 2000

FACILITY	LOCATION	PURPOSE (receives waste from:)	(Gallons)	MONITORED BY	REMARKS
EAST AREA					
241-A-302-A	A Farm	A-151 DB	678	SACS/ENRAF/Manually	Pumped to AW-105 7/00
241-ER-311	B Plant	ER-151, ER-152 DB	8474	SACS/ENRAF/Manually	
241-AX-152	AX Farm	AX-152 DB	625	SACS/MT	August 2000 water added to perform integrity test
241-AZ-151	AZ Farm	AZ-702 condensate	2705	SACS/ENRAF/TMACS	Volume changes daily - pumped to AZ-101 or AZ-102 as needed
241-AZ-154	AZ Farm		25	SACS/MT	
244-BX-TK/SMP	BX Complex	DCRT - Receives from several farms	18253	SACS/MT	Using Manual Tape for tank/sump, pumped 10/16/99 to 66.0 in.
244-A-TK/SMP	A Complex	DCRT - Receives from several farms	6168	MCS/SACS/WTF	WTF- pumped 3/99 to AP-108
A-350	A Farm	Collects drainage	318	MCS/SACS/WTF	WTF (uncorrected) pumped as needed
AR-204	AY Farm	Tanker trucks from various facilities	540	(a) DIP TUBE	Alarms on SACS-pumped to AP-108, 7/00
A-417	A Farm		12344	SACS/WTF	WTF (uncorrected) pumped 4/98
CR-003-TK/SUMP	C Farm	DCRT	3007	MT/ZIP CORD	Zip cord in sump O/S 3/11/96, water intrusion, 1/98
WEST AREA					
241-TX-302-C	TX Farm	TX-154 DB	156	SACS/ENRAF/Manually	
241-U-301-B	U Farm	U-151, U-152, U-153, U-252 DB	9060	SACS/ENRAF/Manually	Returned to service 12/30/93
241-UX-302-A	U Plant	UX-154 DB	3002	SACS/ENRAF/Manually	
241-S-304	S Farm	S-151 DB	130	SACS/ENRAF/Manually	Replaced S-302-A, 10/91; ENRAF installed 7/98 Sump not alarming.
244-S-TK/SMP	S Farm	From original tanks to SY-102	13256	SACS/Manually	WTF (uncorrected)
244-TX-TK/SMP	TX Farm	From original tanks to SY-102	11387	SACS/Manually	MT - pumped PFP 241-Z tank D-5 to 244-TX DCRT on 11/22/00, level now 56.50"
Vent Station Catch Tank		Cross Country Transfer Line	361	SACS/Manually	MT

(a) AR-204 was pumped down to 150 gal then valve was left on and 350 gal of water went back into tank.

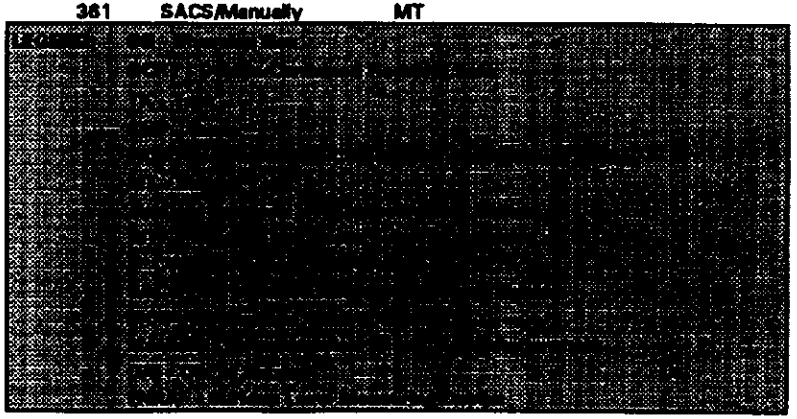
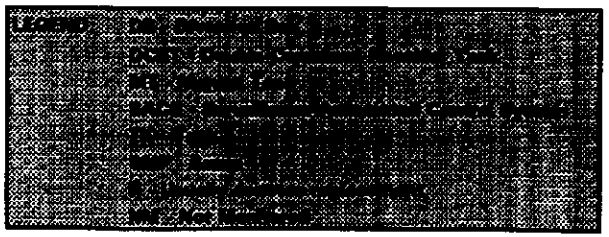


TABLE E-2. EAST AREA INACTIVE MISC. UNDERGROUND STORAGE TANKS AND SPECIAL SURV. FACILITIES

INACTIVE - no longer receiving waste transfers

December 31, 2000

FACILITY	LOCATION	RECEIVED WASTE FROM:	(Gallons)	MONITORED BY	REMARKS
216-BY-201	BY Farm	TBP Waste Line	Unknown	NM	(216-BY)
241-A-302-B	A Farm	A-152 DB	5759	SACS/MT	Isolated 1985, Project B-138 Interim Stabilized 1990, Rain intrusion
241-AX-151	N of PUREX	PUREX	Unknown	NM	Isolated 1985
241-B-301-B	B Farm	B-151, B-152, B-153, B-252 DB	22250	NM	Isolated 1985 (1)
241-B-302-B	B Farm	B-154 DB	4930	NM	Isolated 1985 (1)
241-BX-302-A	BX Farm	BR-152, BX-153, BXR-152, BYR-152 DB	840	NM	Isolated 1985 (1)
241-BX-302-B	BX Farm	BX-154 DB	1040	NM	Isolated 1985 (1)
241-BX-302-C	BX Farm	BX-155 DB	870	NM	Isolated 1985 (1)
241-C-301-C	C Farm	C-151, C-152, C-153, C-252 DB	10470	NM	Isolated 1985 (1)
241-CX-70	Hot Semi-	Transfer lines	Unknown	NM	Isolated, Decommission Project,
241-CX-72	Works	Transfer lines	650	NM	See Dwg H-2-95-501, 2/5/87
241-ER-311A	SW B Plant	ER-151 DB	Unknown	NM	Isolated
244-AR VAULT	A Complex	Between farms & B-Plant	Unknown	NM	Not actively being used. Systems activated for final clean-out.
244-BXR-TK/SMP-001	BX Farm	Transfer lines	7200	NM	Interim Stabilization 1985 (1)
244-BXR-TK/SMP-002	BX Farm	Transfer lines	2180	NM	Interim Stabilization 1985 (1)
244-BXR-TK/SMP-003	BX Farm	Transfer lines	1810	NM	Interim Stabilization 1985 (1)
244-BXR-TK/SMP-011	BX Farm	Transfer lines	7100	NM	Interim Stabilization 1985 (1)
361-B-TANK	B Plant	Drainage from B-Plant	Unknown	NM	Interim Stabilization 1985 (1)
		Total East Area Inactive facilities	18		



(1) SOURCE: WASTE STORAGE TANK STATUS & LEAK DETECTION CRITERIA document

TABLE E-3. WEST AREA INACTIVE MISC. UNDERGROUND STORAGE TANKS AND SPECIAL SURV. FACILITIES

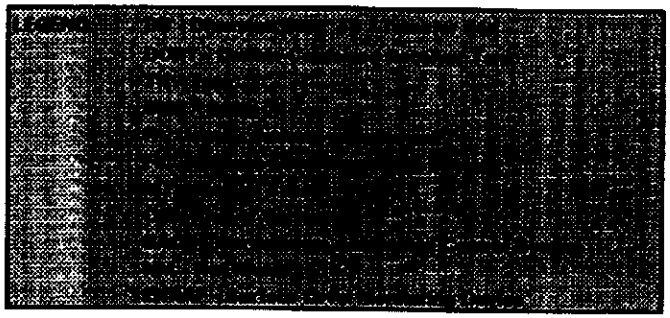
INACTIVE - no longer receiving waste transfers

December 31, 2000

FACILITY	LOCATION	RECEIVED WASTE FROM:	(Gallons)	MONITORED BY	REMARKS
216-TY-201	E. of TY Farm	Supernate from T-112	Unknown	NM	Isolated
231-W-151-001	N. of Z Plant	231-Z Floor drains	Unknown	NM	Inactive, last data 1974
231-W-151-002	N. of Z Plant	231-Z Floor drains	Unknown	NM	Inactive, last data 1974
240-S-302	S Farm	240-S-151 DB	8412	SACS/ENRAF	Assumed Leaker EPDA 85-04
241-S-302-A	S Farm	241-S-151 DB	0		Assumed Leaker TF-EFS-90-042
	Partially filled with grout 2/91, determined still assumed leaker after leak test. Manual FIC readings are unobtainable due to dry grouted surface. CASS monitoring system retired 2/23/99; intrusion readings discontinued. S-304 replaced S-302-A				
241-S-302-B	S Farm	S Encasements	Unknown	NM	Isolated 1985 (1)
241-SX-302	SX Farm	SX-151 DB, 151 TB	Unknown	NM	Isolated 1987
241-SX-304	SX Farm	SX-152 Transfer Box, SX-151 DB	Unknown	NM	Isolated 1985 (1)
241-T-301	T Farm	DB T-151, -151, -153, -252	Unknown	NM	Isolated 1985 (241-T-301B)
241-TX-302	TX Farm	TX-153 DB	Unknown	NM	Isolated 1985 (1)
241-TX-302-X-B	TX Farm	TX Encasements	Unknown	NM	Isolated 1985 (1)
241-TX-302-B	TX Farm	TX-155 DB	1600	SACS/MT	New MT installed 7/16/93
241-TX-302-B(R)	E. of TX Farm	TX-155 DB	Unknown	NM	Isolated
241-TY-302-A	TY Farm	TX-153 DB	Unknown	NM	Isolated 1985 (1)
241-TY-302-B	TY Farm	TY Encasements	Unknown	NM	Isolated 1985 (1)
241-Z-8	E. of Z Plant	Recuplex waste	Unknown	NM	Isolated, 1974, 1975
242-T-135	T Evaporator	T Evaporator	Unknown	NM	Isolated
242-TA-R1	T Evaporator	Z Plant waste	Unknown	NM	Isolated
243-S-TK-1	N. of S Farm	Pers. Decon. Facility	Unknown	NM	Isolated
244-U-TK/SMP	U Farm	DCRT - Receives from several farms	Unknown	NM	Not yet in use
244-TXR VAULT	TX Farm	Transfer lines	Unknown	NM	Interim Stabilized, MT removed 1984 (1)
244-TXR-TK/SMP-001	TX Farm	Transfer lines	Unknown	NM	Interim Stabilized, MT removed 1984 (1)
244-TXR-TK/SMP-002	TX Farm	Transfer lines	Unknown	NM	Interim Stabilized, MT removed 1984 (1)
244-TXR-TK/SMP-003	TX Farm	Transfer lines	Unknown	NM	Interim Stabilized, MT removed 1984 (1)
270-W	SE of U Plant	Condensate from U-221	Unknown	NM	Isolated 1970
361-T-TANK	T Plant	Drainage from T-Plant	Unknown	NM	Isolated 1985 (1)
361-U-TANK	U Plant	Drainage from U-Plant	Unknown	NM	Interim Stabilized, MT removed 1984 (1)

Total West Area Inactive Facilities = 27

(1) SOURCE: WASTE STORAGE TANK STATUS & LEAK DETECTION CRITERIA document



APPENDIX F

LEAK VOLUME ESTIMATES

TABLE F-1. SINGLE-SHELL TANK LEAK VOLUME ESTIMATES (Sheet 1 of 5)

December 31, 2000

Tank Number	Date Declared Confirmed or Assumed Leaker (3)	Volume Gallons (2)	Associated KiloCuries 137 cs (10)	Interim Stabilized Date (11)	Leak Estimate Updated	Leak Estimate Reference
241-A-103	1987	5500 (8)		06/88	1987	(j)
241-A-104	1975	500 to 2500	0.8 to 1.8 (q)	09/78	1983	(a)(q)
241-A-105 (1)	1963	10000 to 277000	85 to 760 (b)	07/79	1991	(b)(c)
241-AX-102	1988	3000 (8)		09/88	1988	(h)
241-AX-104	1977	-- (6)		08/81	1989	(g)
241-B-101	1974	-- (6)		03/81	1989	(g)
241-B-103	1978	-- (6)		02/85	1989	(g)
241-B-105	1978	-- (6)		12/84	1989	(g)
241-B-107	1980	8000 (8)		03/85	1986	(d)(f)
241-B-110	1981	10000 (8)		03/85	1986	(d)
241-B-111	1978	-- (6)		06/85	1989	(g)
241-B-112	1978	2000		05/85	1989	(g)
241-B-201	1980	1200 (8)		08/81	1984	(e)(f)
241-B-203	1983	300 (8)		06/84	1986	(d)
241-B-204	1984	400 (8)		06/84	1989	(g)
241-BX-101	1972	-- (6)		08/78	1989	(g)
241-BX-102	1971	70000	50 (i)	11/78	1986	(d)
241-BX-108	1974	2500	0.5 (i)	07/79	1986	(d)
241-BX-110	1976	-- (6)		08/85	1989	(g)
241-BX-111	1984 (13)	-- (6)		03/85	1993	(g)
241-BY-103	1973	<5000		11/97	1983	(a)
241-BY-105	1984	-- (6)		N/A	1989	(g)
241-BY-106	1984	-- (6)		N/A	1989	(g)
241-BY-107	1984	15100 (8)		07/79	1989	(g)
241-BY-108	1972	<5000		02/85	1983	(a)
241-C-101	1980	20000 (8)(10)		11/83	1986	(d)
241-C-110	1984	2000		05/95	1989	(g)
241-C-111	1968	5500 (8)		03/84	1989	(g)
241-C-201 (4)	1988	550		03/82	1987	(i)
241-C-202 (4)	1988	450		08/81	1987	(i)
241-C-203	1984	400 (8)		03/82	1986	(d)
241-C-204 (4)	1988	350		09/82	1987	(i)
241-S-104	1968	24000 (8)		12/84	1989	(g)
241-SX-104	1988	6000 (8)		04/00	1988	(k)
241-SX-107	1964	<5000		10/79	1983	(a)
241-SX-108 (5)(14)	1962	2400 to 35000	17 to 140 (m)(q)(t)	08/79	1991	(m)(q)(t)
241-SX-109 (5)(14)	1965	<10000	<40 (n)(t)	05/81	1992	(n)(t)
241-SX-110	1976	5500 (8)		08/79	1989	(g)
241-SX-111 (14)	1974	500 to 2000	0.6 to 2.4 (l)(q)(t)	07/79	1986	(d)(q)(t)
241-SX-112 (14)	1969	30000	40 (l)(t)	07/79	1986	(d)(t)
241-SX-113	1962	15000	8 (l)	11/78	1986	(d)
241-SX-114	1972	-- (6)		07/79	1989	(g)
241-SX-115	1965	50000	21 (o)	09/78	1992	(o)
241-T-101	1992	7500 (8)		04/93	1992	(p)
241-T-103	1974	<1000 (8)		11/83	1989	(g)
241-T-106	1973	115000 (8)	40 (l)	08/81	1986	(d)
241-T-107	1984	-- (6)		05/96	1989	(g)
241-T-108	1974	<1000 (8)		11/78	1980	(f)
241-T-109	1974	<1000 (8)		12/84	1989	(g)
241-T-111	1979, 1994 (12)	<1000 (8)		02/95	1994	(f)(r)
241-TX-105	1977	-- (6)		04/83	1989	(g)
241-TX-107 (5)	1984	2500		10/79	1986	(d)
241-TX-110	1977	-- (6)		04/83	1989	(g)
241-TX-113	1974	-- (6)		04/83	1989	(g)
241-TX-114	1974	-- (6)		04/83	1989	(g)
241-TX-115	1977	-- (6)		09/83	1989	(g)
241-TX-116	1977	-- (6)		04/83	1989	(g)
241-TX-117	1977	-- (6)		03/83	1989	(g)
241-TY-101	1973	<1000 (8)		04/83	1980	(f)
241-TY-103	1973	3000	0.7 (l)	02/83	1986	(d)
241-TY-104	1981	1400 (8)		11/83	1986	(d)
241-TY-105	1960	35000	4 (l)	02/83	1986	(d)
241-TY-106	1959	20000	2 (l)	11/78	1986	(d)
241-U-101	1959	30000	20 (l)	09/79	1986	(d)
241-U-104	1961	55000	0.09 (l)	10/78	1986	(d)
241-U-110	1975	5000 to 8100 (8)	0.05 (q)	12/84	1986	(d)(q)
241-U-112	1980	8500 (8)		09/79	1986	(d)
67 Tanks		270,000 - 1,060,000 (7)				

N/A = not applicable (not yet interim stabilized)

TABLE F-1. SINGLE-SHELL LEAK VOLUME ESTIMATES
(Sheet 2 of 6)

Footnotes:

(1) Current estimates [see reference(b)] are that 610 Kgallons of cooling water was added to Tank 241-A-105 from November 1970 to December 1978 to aid in evaporative cooling. In accordance with Dangerous Waste Regulations [Washington Administrative Code 173-303-070 (2)(a)(ii), as amended, Washington State Department of Ecology, 1990, Olympia, Washington], any of this cooling water that has been added and subsequently leaked from the tank must be classified as a waste and should be included in the total leak volume. In August 1991, the leak volume estimate for this tank was updated in accordance with the WAC regulations. Previous estimates excluded the cooling water leaks from the total leak volume estimates because the waste content (concentration) in the cooling water which leaked should be much less than the original liquid waste in the tank (the sludge is relatively insoluble). The total leak volume estimate in this report (10 Kgallons to 277 Kgallons) is based on the following (see References):

1. Reference (b) contains an estimate of 5 Kgallons to 15 Kgallons for the initial leak prior to August 1968.

2. Reference (b) contains an estimate of 5 Kgallons to 30 Kgallons for the leak while the tank was being sluiced from August 1968 to November 1970.

3. Reference (b) contains an estimate of 610 Kgallons of cooling water added to the tank from November 1970 to December 1978 but it was estimated that the leakage was small during this period. This reference contains the statement "Sufficient heat was generated in the tank to evaporate most, and perhaps nearly all, of this water." This results in a low estimate of zero gallons leakage from November 1970 to December 1978.

4. Reference (c) contains an estimate the 378 to 410 Kgallons evaporated out of the tank from November 1970 to December 1978. Subtracting the minimum evaporation estimate from the cooling water added estimate provides a range from 0 to 232 Kgallons of cooling water leakage from November 1970 to December 1978.

	Low Estimate	High Estimate
Prior to August 1968	5,000	15,000
August 1968 to November 1970	5,000	30,000
November 1970 to December 1978	0	232,000
Totals	10,000	277,000

(2) These leak volume estimates do not include (with some exceptions), such things as: (a) cooling/raw water leaks, (b) intrusions (rain infiltration) and subsequent leaks, (c) leaks inside the tank farm but not through the tank liner (surface leaks, pipeline leaks, leaks at the joint for the overflow or fill lines, etc.), and (d) leaks from catch tanks, diversion boxes, encasements, etc.

(3) In many cases, a leak was suspected long before it was identified or confirmed. For example, reference (d) shows that Tank 241-U-104 was suspected of leaking in 1956. The leak was "confirmed" in 1961. This report lists the "assumed leaker" date of 1961. Using present standards, Tank 241-U-104 would have been declared an assumed leaker in 1956. In 1984, the criteria designations of "suspected leaker," "questionable integrity," "confirmed leaker," "declared leaker," "borderline" and "dormant," were merged into one category now reported as "assumed leaker." See reference (f) for explanation of when, how long, and how fast some of the tanks leaked. It is highly likely that there have been undetected leaks from single-shell tanks because of the nature of their design and instrumentation.

TABLE F-1. SINGLE-SHELL TANK LEAK VOLUME ESTIMATES
(Sheet 3 of 6)

(4) The leak volume estimate date for these tanks is before the "declared leaker" date because the tank was in a "suspected leaker" or "questionable integrity" status; however, a leak volume had been estimated prior to the tank being reclassified.

(5) The increasing radiation levels in drywells and laterals associated with these three tanks could be indicating continuing leak or movement of existing radionuclides in the soil. There is no conclusive way to confirm these observations.

(6) Methods were used to estimate the leak volumes from these 19 tanks based on the assumption that their cumulative leakage is approximately the same as for 18 of the 24 tanks identified in footnote (9). For more details see reference (g). The total leak volume estimate for these tanks is 150 Kgallons (rounded to the nearest Kgallons), for an average of approximately 8 Kgallons for each of 19 tanks.

(7) The total has been rounded to the nearest 50 Kgallons. Upper bound values were used in many cases in developing these estimates. It is likely that some of these tanks have not actually leaked.

(8) Leak volume estimate is based solely on observed liquid level decreases in these tanks. This is considered to be the most accurate method for estimating leak volumes.

(9) The curie content shown is as listed in the reference document and is not decayed to a consistent date: therefore, a cumulative total is inappropriate.

(10) Tank 241-C-101 experienced a liquid level decrease in the late 1960s and was taken out of service and pumped to a "minimum heel" in December 1969. In 1970, the tank was classified as a "questionable integrity" tank. Liquid level data show decreases in level throughout the 1970s and the tank was saltwell pumped during the 1970s, ending in April 1979. The tank was reclassified as a "confirmed leaker" in January 1980. See references (q) and (r); refer to reference (s) for information on the potential for there to have been leaks from other C-farm tanks (specifically, C-102, C-103, and C-109).

(11) These dates indicate when the tanks were declared to be interim stabilized. In some cases, the official interim stabilization documents were issued at a later date. Also, in some cases, the field work associated with interim stabilization was completed at an earlier date.

(12) Tank T-111 was declared an assumed re-leaker on February 28, 1994, due to a decreasing trend in surface level measurement. This tank was pumped, and interim stabilization completed on February 22, 1995.

(13) Tank BX-111 was declared an assumed re-leaker in April 1993. Preparations for pumping were delayed, following an administrative hold placed on all tank farm operations in August 1993. Pumping resumed and the tank was declared interim stabilized on March 15, 1995.

(14) The leak volume and curie release estimates on SX-108, SX-109, SX-111, and SX-112 have been re-evaluated using a Historical Leak Model [see reference (t)]. In general, the model estimates are much higher than the values listed in the table, both for volume and curies released. The values listed in the table do not reflect this revised estimate because, "In particular, it is worth emphasizing that this report was never meant to be a definitive update for the leak baseline at the Hanford Site. It was rather meant to be an attempt to view the issue of leak inventories with a new and different methodology." (This quote is from the first page of the referenced report).

(15) In July 1998, the Washington State Department of Ecology (Ecology) directed the U. S. Department of Energy (DOE) to develop corrective action plans for eight single-shell tank farms (B/BX/BY/S/SX/T/TX/TY) where groundwater contamination likely originated from tank farm operations. A Tri-Party Agreement milestone (M-45 series) was developed that established a formalized approach for evaluating impacts on groundwater quality of losses of tank wastes to the vadose zone underlying these tank farms. Planning documents have been

TABLE F-1. SINGLE-SHELL TANK LEAK VOLUME ESTIMATES
(Sheet 4 of 6)

completed for the S, SX, B, BX, and BY tank farms and will be completed shortly for the T, TX, and TY farms. The phase 1 field investigation is near completion in the S and SX tank farms and has begun in the B, BX, and BY farms. Field work is anticipated in FY-02 for the T, TX, and TY tank farms. The remaining four single-shell tank farms are expected to be included in corrective action plans in the near future.

All of the information included in this appendix is currently under review and significant revisions are anticipated. Recently, major tank farm vadose zone investigation efforts (such as the baseline spectral gamma-ray logging of all drywells in all single-shell tank farms, as well as drilling and sampling in the SX tank farm) were completed. This appendix will be revised as a better understanding of past tank leak events is developed.

TABLE F-1. SINGLE-SHELL TANK LEAK VOLUME ESTIMATES
(Sheet 5 of 6)

References:

(a) Murthy, K.S., et al, June 1983, *Assessment of Single-Shell Tank Residual Liquid Issues at Hanford Site, Washington*, PNL-4688, Pacific Northwest Laboratory, Richland, Washington.

(b) WHC, 1991a, *Tank 241-A-105 Leak Assessment*, WHC-MR-0264, Westinghouse Hanford Company, Richland, Washington.

(c) WHC, 1991b, *Tank 241-A-105 Evaporation Estimate 1970 Through 1978*, WHC-EP-0410, Westinghouse Hanford Company, Richland, Washington.

(d) Smith, D. A., January 1986, *Single-Shell Tank Isolation Safety Analysis Report*, SD-WM-SAR-006, Rev. 1, Westinghouse Hanford Company, Richland, Washington.

(e) McCann, D. C., and T. S. Vail, September 1984, *Waste Status Summary*, RHO-RE-SR-14, Rockwell Hanford Operations, Richland, Washington.

(f) Catlin, R. J., March 1980, *Assessment of the Surveillance Program of the High-Level Waste Storage Tanks at Hanford*, Hanford Engineering Development Laboratory, Richland, Washington.

(g) Baumhardt, R. J., May 15, 1989, Letter to R. E. Gerton, U.S. Department of Energy-Richland Operations Office, *Single-Shell Tank Leak Volumes*, 8901832B R1, Westinghouse Hanford Company, Richland, Washington.

(h) WHC, 1990a, Occurrence Report, *Surface Level Measurement Decrease in Single-Shell Tank 241-AX-102*, WHC-UO-89-023-TF-05, Westinghouse Hanford Company, Richland, Washington.

(i) Groth, D. R., July 1, 1987, Internal Memorandum to R. J. Baumhardt, *Liquid Level Losses in Tanks 241-C-201, -202 and -204*, 65950-87-517, Westinghouse Hanford Company, Richland, Washington.

(j) Groth, D. R. and G. C. Owens, May 15, 1987, Internal Memorandum to J. H. Roecker, *Tank 103-A Integrity Evaluation*, Westinghouse Hanford Company, Richland, Washington.

(k) Dunford, G. L., July 8, 1988, Internal Memorandum to R. K. Welty, *Engineering Investigation: Interstitial Liquid Level Decrease in Tank 241-SX-104*, 13331-88-416, Westinghouse Hanford Company, Richland, Washington.

(l) ERDA, 1975, *Final Environmental Statement Waste Management Operations, Hanford Reservation, Richland, Washington*, ERDA-1538, 2 vols., U.S. Energy Research and Development Administration, Washington, D.C.

(m) WHC, 1992a, *Tank 241-SX-108 Leak Assessment*, WHC-MR-0300, Westinghouse Hanford Company, Richland, Washington.

(n) WHC, 1992b, *Tank 241-SX-109 Leak Assessment*, WHC-MR-0301, Westinghouse Hanford Company, Richland, Washington.

(o) WHC, 1992c, *Tank 241-SX-115 Leak Assessment*, WHC-MR-0302, Westinghouse Hanford Company, Richland, Washington.

TABLE F-1. SINGLE-SHELL TANK LEAK VOLUME ESTIMATES
(Sheet 6 of 6)

(p) WHC, 1992d, Occurrence Report, *Apparent Decrease in Liquid Level in Single Shell Underground Storage Tank 241-T-101, Leak Suspected; Investigation Continuing*, RL-WHC-TANKFARM-1992-0073, Westinghouse Hanford Company, Richland, Washington.

(q) WHC,1990b, *A History of the 200 Area Tank Farms*, WHC-MR-0132, Westinghouse Hanford Company, Richland, Washington.

(r) WHC, 1993a, *Assessment of Unsaturated Zone Radionuclide Contamination Around Single-Shell Tanks 241-C-105 and 241-C-106, WHC-SD-EN-TI-185*, REV OA, Westinghouse Hanford Company, Richland, Washington.

(s) WHC, 1994, Occurrence Report, *Apparent Liquid Level Decrease in Single Shell Underground Storage Tank 241-T-111; Declared an Assumed Re-Leaker*, RL-WHC-TANKFARM-1994-0009, Westinghouse Hanford Company, Richland, Washington.

(t) HNF, 1998, Agnew, S. F. and R. A. Corbin, August 1998, *Analysis of SX Farm Leak Histories - Historical Leak Model*, (HLM), HNF-3233, Rev. 0, Los Alamos National Laboratory, Los Alamos, New Mexico

APPENDIX G

SINGLE-SHELL TANKS INTERIM STABILIZATION, AND CONTROLLED, CLEAN AND STABLE (CCS) STATUS

TABLE G-1. SINGLE-SHELL TANKS INTERIM STABILIZATION STATUS (Sheet 1 of 3)

December 31, 2000

Tank Number	Tank Integrity	Interim Stabil. Date (1)	Stabil. Method
A-101	SOUND	N/A	
A-102	SOUND	06/89	SN
A-103	ASMD LKR	06/88	AR
A-104	ASMD LKR	09/78	AR
A-105	ASMD LKR	07/79	AR
A-106	SOUND	06/82	AR
AX-101	SOUND	N/A	
AX-102	ASMD LKR	09/88	SN
AX-103	SOUND	06/87	AR
AX-104	ASMD LKR	08/81	AR
B-101	ASMD LKR	03/81	SN
B-102	SOUND	06/85	SN
B-103	ASMD LKR	02/85	SN
B-104	SOUND	06/85	SN
B-105	ASMD LKR	12/84	AR
B-106	SOUND	03/85	SN
B-107	ASMD LKR	03/85	SN
B-108	SOUND	05/85	SN
B-109	SOUND	04/85	SN
B-110	ASMD LKR	12/84	AR
B-111	ASMD LKR	06/85	SN
B-112	ASMD LKR	06/85	SN
B-201	ASMD LKR	08/81	AR (3)
B-202	SOUND	05/85	AR(2)
B-203	ASMD LKR	06/84	AR
B-204	ASMD LKR	06/84	AR
BX-101	ASMD LKR	09/78	AR
BX-102	ASMD LKR	11/78	AR
BX-103	SOUND	11/83	AR(2)
BX-104	SOUND	09/89	SN
BX-105	SOUND	03/81	SN
BX-106	SOUND	07/95	SN
BX-107	SOUND	09/90	JET
BX-108	ASMD LKR	07/79	SN
BX-109	SOUND	09/90	JET
BX-110	ASMD LKR	06/85	SN
BX-111	ASMD LKR	03/96	JET
BX-112	SOUND	09/90	JET
BY-101	SOUND	05/84	JET
BY-102	SOUND	04/95	JET
BY-103	ASMD LKR	11/97	JET
BY-104	SOUND	01/85	JET
BY-105	ASMD LKR	N/A	
BY-106	ASMD LKR	N/A	
BY-107	ASMD LKR	07/79	JET
BY-108	ASMD LKR	02/85	JET
BY-109	SOUND	07/97	JET
BY-110	SOUND	01/85	JET
BY-111	SOUND	01/85	JET
BY-112	SOUND	06/84	JET
C-101	ASMD LKR	11/83	AR
C-102	SOUND	09/95	JET
C-103	SOUND	N/A	
C-104	SOUND	09/89	SN
C-105	SOUND	10/95	AR
C-106	SOUND	N/A	
C-107	SOUND	09/85	JET
C-108	SOUND	03/84	AR
C-109	SOUND	11/83	AR
C-110	ASMD LKR	05/95	JET
C-111	ASMD LKR	03/84	SN
C-112	SOUND	09/90	AR
C-201	ASMD LKR	03/82	AR
C-202	ASMD LKR	08/81	AR
C-203	ASMD LKR	03/82	AR
C-204	ASMD LKR	09/82	AR
S-101	SOUND	N/A	
S-102	SOUND	N/A	
S-103	SOUND	04/00	JET (6)
S-104	ASMD LKR	12/84	AR
S-105	SOUND	09/88	JET
S-106	SOUND	N/A	
S-107	SOUND	N/A	
S-108	SOUND	12/96	JET
S-109	SOUND	N/A	
S-110	SOUND	01/97	JET
S-111	SOUND	N/A	
S-112	SOUND	N/A	
SX-101	SOUND	N/A	
SX-102	SOUND	N/A	
SX-103	SOUND	N/A	
SX-104	ASMD LKR	04/00	JET (7)
SX-105	SOUND	N/A	
SX-106	SOUND	05/00	JET (8)
SX-107	ASMD LKR	10/79	AR
SX-108	ASMD LKR	08/78	AR
SX-109	ASMD LKR	05/81	AR
SX-110	ASMD LKR	08/79	AR
SX-111	ASMD LKR	07/79	SN
SX-112	ASMD LKR	07/79	AR
SX-113	ASMD LKR	11/78	AR
SX-114	ASMD LKR	07/79	AR
SX-115	ASMD LKR	09/78	AR
T-101	ASMD LKR	04/93	SN
T-102	SOUND	03/81	AR(2)(3)
T-103	ASMD LKR	11/83	AR
T-104	SOUND	11/99 (4)	JET
T-105	SOUND	06/87	AR
T-106	ASMD LKR	08/81	AR
T-107	ASMD LKR	05/96	JET
T-108	ASMD LKR	11/78	AR
T-109	ASMD LKR	12/84	AR
T-110	SOUND	01/00 (5)	JET
T-111	ASMD LKR	02/95	JET
T-112	SOUND	03/81	AR(2)(3)
T-201	SOUND	04/81	AR (3)
T-202	SOUND	08/81	AR
T-203	SOUND	04/81	AR
T-204	SOUND	08/81	AR
TX-101	SOUND	02/84	AR
TX-102	SOUND	04/83	JET
TX-103	SOUND	08/83	JET
TX-104	SOUND	09/79	SN
TX-105	ASMD LKR	04/83	JET
TX-106	SOUND	06/83	JET
TX-107	ASMD LKR	10/79	AR
TX-108	SOUND	03/83	JET
TX-109	SOUND	04/83	JET
TX-110	ASMD LKR	04/83	JET
TX-111	SOUND	04/83	JET
TX-112	SOUND	04/83	JET
TX-113	ASMD LKR	04/83	JET
TX-114	ASMD LKR	04/83	JET
TX-115	ASMD LKR	09/83	JET
TX-116	ASMD LKR	04/83	JET
TX-117	ASMD LKR	03/83	JET
TX-118	SOUND	04/83	JET
TY-101	ASMD LKR	04/83	JET
TY-102	SOUND	09/79	AR
TY-103	ASMD LKR	02/83	JET
TY-104	ASMD LKR	11/83	AR
TY-105	ASMD LKR	02/83	JET
TY-106	ASMD LKR	11/78	AR
U-101	ASMD LKR	09/79	AR
U-102	SOUND	N/A	
U-103	SOUND	09/00	JET (9)
U-104	ASMD LKR	10/76	AR
U-105	SOUND	N/A	
U-106	SOUND	N/A	
U-107	SOUND	N/A	
U-108	SOUND	N/A	
U-109	SOUND	N/A	
U-110	ASMD LKR	12/84	AR
U-111	SOUND	N/A	
U-112	ASMD LKR	09/79	AR
U-201	SOUND	06/79	AR
U-202	SOUND	06/79	SN
U-203	SOUND	06/79	AR
U-204	SOUND	06/79	SN

LEGEND:

AR = Administratively interim stabilized
JET = Saltwell jet pumped to remove drainable interstitial liquid
SN = Supernate pumped (Non-Jet pumped)
N/A = Not yet interim stabilized
ASMD LKR = Assumed Leaker

Interim Stabilized Tanks	125
Not Yet Interim Stabilized	24
Total Single-Shell Tanks	149

TABLE G-1. SINGLE-SHELL TANKS INTERIM STABILIZATION STATUS (sheet 2 of 2)

Footnotes:

(1) These dates indicate when the tanks were actually interim stabilized. In some cases, the official interim stabilization documents were issued at a later date.

(2) Although tanks, BX-103, T-102 and T-112 met the interim stabilization administrative procedure at the time they were stabilized, they no longer meet the recently updated administrative procedure. The tanks were re-evaluated in 1996 and memo 9654456, J. H. Wicks to Dr. J. K. McClusky, DOE-RL, dated September 1996, was issued which recommended that no further pumping be performed on these tanks, based on an economic evaluation.

Document RPP-5556, Rev. 0, "Updated Drainable Interstitial Liquid Volume Estimates for 119 Single-Shell Tanks Declared Stabilized," J. G. Field, February 7, 2000, states that five tanks no longer meet the stabilization criteria (BX-103, T-102, and T-112 exceed the supernate criteria, and BY-103 and C-102 exceed the DIL criteria).

An intrusion investigation was completed on tank B-202 in 1996 because of a detected increase in surface level. As a result of this investigation, it was determined that this tank no longer meets the recently updated administrative procedure for 200 series tanks.

(3) Original Interim Stabilization data are missing on four tanks: B-201, T-102, T-112, and T-201.

(4) Tank 241-T-104 was Interim Stabilized on November 19, 1999. In-tank video taken October 7, 1999, shows the surface is clearly sludge-type waste with no saltcake present. No visible water on surface. Waste surface appears level across tank with numerous cracks. There is a minimal collapsed area around the saltwell screen, with no visible bottom.

(5) Tank 241-T-110 was Interim Stabilized on January 5, 2000, due to major equipment failure. An in-tank video taken October 7, 1999 (pumping was discontinued on August 12, 1999), showed the surface of this tank as smooth, brown-tinted sludge with visible cracks.

(6) Tank 241-S-103 was declared Interim Stabilized April 18, 2000. The surface is a rough, black and brown-colored waste with yellow patches of saltcake visible throughout. The surface appears to be damp but not saturated, and shows irregular cracking typically seen with surfaces beginning to dry out. A pool of supernatant liquid (10 feet in diameter, 5 feet deep, 1.0 Kgallons) is visible from video observations.

(7) Tank 241-SX-104 was declared Interim Stabilized April 26, 2000, due to major equipment failure. The surface is a rough, yellowish gray saltcake waste with an irregular surface of visible cracks and shelves that were created as the surface dried out. The waste surface appears to be dry and shows no standing water within the tank.

(8) Tank 241-SX-106 was declared Interim Stabilized May 5, 2000. The surface is a smooth, white-colored saltcake waste. The surface level slopes slightly from the tank sidewall down to a large depression in the center of the tank. A second depression surrounds both saltwell screens and an abandoned LOW. The waste surfaces appear dry and show no standing water within the tank.

(9) Tank 241-U-103 was declared Interim Stabilized September 11, 2000. The surface is a brown colored waste with irregular patches of white salt crystal. Approximately 30% of the waste surface is covered by the salt formations. The surface level slopes slightly from the tank sidewall down to the first of two depressions in the center of the tank. The waste surface appears dry and shows signs of drying and cracking due to saltwell pumping. LOW readings indicate an average adjusted ILL of 60.2 inches. There is a small pool of supernatant liquid estimated to be 500 gallons.

TABLE G-2. SINGLE-SHELL TANK INTERIM STABILIZATION MILESTONES

December 31, 2000

(sheet 1 of 2)

New single-shell tank interim stabilization milestones were negotiated in 1999 and are identified in the "Consent Decree." The Consent Decree was approved on August 16, 1999.

CONSENT DECREE
Attachments A-1 and A-2

Following is the schedule for pumping liquid waste from the remaining twenty-nine (29) single-shell tanks. This schedule is enforceable pursuant to the terms of the Decree except for the "Project Pumping Completion Dates," which are estimates only and not enforceable. (Note: Schedule does not include C-106)

	Tank Designation	Projected Pumping Start Date	Actual Pumping Start Date	Projected Pumping Completion Date	Interim Stabilization Date
1.	T-104	Already initiated	March 24, 1996	May 30, 1999	November 19, 1999
2.	T-110	Already initiated	May 12, 1997	May 30, 1999	January 5, 2000
3.	SX-104	Already initiated	September 26, 1997	December 30, 2000	April 26, 2000
4.	SX-106	Already initiated	October 6, 1998	December 30, 2000	May 5, 2000
5.	S-102	July 31, 1999	March 18, 1999	March 30, 2001	
6.	S-106	July 31, 1999	April 16, 1999	March 30, 2001	
7.	S-103	July 31, 1999	June 4, 1999	March 30, 2001	April 18, 2000
8.	U-103*	June 15, 2000	September 26, 1999	April 15, 2002	September 11, 2000
9.	U-105*	June 15, 2000	December 10, 1999	April 15, 2002	
10.	U-102*	June 15, 2000	January 20, 2000	April 15, 2002	
11.	U-109*	June 15, 2000	March 11, 2000	April 15, 2002	
12.	A-101	October 30, 2000	May 6, 2000	September 30, 2003	
13.	AX-101	October 30, 2000	July 29, 2000	September 30, 2003	
14.	SX-105	March 15, 2001	August 8, 2000	February 28, 2003	
15.	SX-103	March 15, 2001	October 26, 2000	February 28, 2003	
16.	SX-101	March 15, 2001	November 22, 2000	February 28, 2003	
17.	U-106*	March 15, 2001	August 24, 2000	February 28, 2003	
18.	BY-106	July 15, 2001		June 30, 2003	
19.	BY-105	July 15, 2001		June 30, 2003	
20.	U-108	December 30, 2001		August 30, 2003	
21.	U-107	December 30, 2001		August 30, 2003	
22.	S-111	December 30, 2001		August 30, 2003	
23.	SX-102	December 30, 2001		August 30, 2003	
24.	U-111	November 30, 2002		September 30, 2003	
25.	S-109	November 30, 2002	September 23, 2000	September 30, 2003	
26.	S-112	November 30, 2002		September 30, 2003	
27.	S-101	November 30, 2002		September 30, 2003	
28.	S-107	November 30, 2002		September 30, 2003	
29.	C-103	No later than December 30, 2000, DOE will determine whether the organic layer and pumpable liquids will be pumped from this tank together or separately, and will establish a deadline for initiating pumping of this tank. The parties will incorporate the initiation deadline into this schedule as provided in Section VI of the Decree. ORP issued a letter to WDOE on December 22, 2000, meeting the requirements of this milestone.			

* Tanks containing organic complexants.

TABLE G-2. SINGLE-SHELL TANK INTERIM STABILIZATION MILESTONES
(sheet 2 of 2)

Completion of Interim Stabilization. DOE will complete interim stabilization of all 29 single-shell tanks listed above by September 30, 2004.

Percentage of Pumpable Liquid Remaining to be Removed:

93% of Total Liquid	9/30/1999 (1)
38% of Organic Complexed Pumpable Liquids	9/30/2000 (2)
5% of Organic Complexed Pumpable Liquids	9/30/2001
18% of Total Liquid	9/30/2002
2% of Total Liquid	9/30/2003

The "percentage of pumpable liquid remaining to be removed" is calculated by dividing the volume of pumpable liquid remaining to be removed from tanks not yet interim stabilized by the sum of the total amount of liquid that has been pumped and the pumpable liquid that remains to be pumped from all tanks.

(1) The Pumpable Liquid Remaining was reduced to 88%, by 9/30/99, exceeding this milestone. Reference LMHC-9957926 R1, D. I. Allen, LHMC RPP to D. C. Bryson, DOE-OPP, dated October 26, 1999

(2) The Complexed Pumpable Liquid Remaining was reduced to 38%, by 9/15/00. Reference CHG-0004752, R. F. Wood, CHG, to J. J. Short, DOE-RPP, dated September 13, 2000.

TABLE G-3. SINGLE-SHELL TANKS STABILIZATION STATUS SUMMARY

December 31, 2000

Partial Interim Isolated (PI)

EAST AREA

A-101
A-102

AX-101

BY-102
BY-103
BY-105
BY-106
BY-109

C-103
C-105
C-106

WEST AREA

S-101
S-102
S-103
S-106
S-107
S-108
S-109
S-110
S-111
S-112

SX-101
SX-102
SX-103
SX-104
SX-105
SX-106

T-101
T-104
T-107
T-110
T-111

U-102
U-103
U-105
U-106
U-107
U-108
U-109
U-110
U-111

Intrusion Prevention Completed (IP)

EAST AREA

A-103
A-104
A-105
A-106

AX-102
AX-103
AX-104

B-FARM - 16 tanks
BX-FARM - 12 tanks

BY-101
BY-104
BY-107
BY-108
BY-110
BY-111
BY-112

C-101
C-102
C-104
C-107
C-108
C-109
C-110
C-111
C-112
C-201
C-202
C-203
C-204

WEST AREA

S-104
S-105

SX-107
SX-108
SX-109
SX-110
SX-111
SX-112
SX-113
SX-114
SX-115

T-102
T-103
T-105
T-106
T-108
T-109
T-112
T-201
T-202
T-203
T-204

TX-FARM - 16 tanks
TY-FARM - 6 tanks

U-101
U-104
U-112
U-102
U-202
U-203
U-204

Interim Stabilized (IS)

EAST AREA

A-102
A-103
A-104
A-105
A-106

AX-102
AX-103
AX-104

B-FARM - 16 tanks
BX-FARM - 12 tanks

BY-101
BY-102
BY-103
BY-104
BY-107
BY-108
BY-109
BY-110
BY-111
BY-112

C-101
C-102
C-104
C-105
C-107
C-108
C-109
C-110
C-111
C-112
C-201
C-202
C-203
C-204

WEST AREA

S-103
S-104
S-105
S-106
S-110

SX-104
SX-106
SX-107
SX-108
SX-109
SX-110
SX-111
SX-112
SX-113
SX-114
SX-115

T-Farm - 16 tanks
TX-FARM - 16 tanks
TY-FARM - 6 tanks

U-101
U-103
U-104
U-110
U-112
U-201
U-202
U-203
U-204

Controlled, Clean, and Stable (CCS)

EAST AREA

BX-FARM - 12 Tanks

WEST AREA

TX-FARM - 16 tanks
TY FARM - 6 tanks

Note: CCS activities have been deferred until funding is available.

APPENDIX H

TANKS AND EQUIPMENT CODE AND STATUS DEFINITIONS

TABLE H - 1. TANK AND EQUIPMENT CODE/STATUS DEFINITIONS
December 31, 2000

1. TANK STATUS CODES

WASTE TYPE (also see definitions, section 2 below)

AW	Aging Waste (Neutralized Current Acid Waste [NCAW])
CC	Complexant Concentrate Waste
CP	Concentrated Phosphate Waste
DC	Dilute Complexed Waste
DN	Dilute Non-Complexed Waste
DSS	Double-Shell Slurry
DSSF	Double-Shell Slurry Feed
NCPLX	Non-Complexed Waste
PD	Plutonium-Uranium Extraction (PUREX) Neutralized Cladding Removal Waste (NCRW), transuranic waste (TRU)

TANK USE (DOUBLE-SHELL TANKS ONLY)

CWHT	Concentrated Waste Holding Tank
DRCVR	Dilute Receiver Tank
EVFD	Evaporate Feed Tank
SRCVR	Slurry Receiver Tank

2. DEFINITIONS

WASTE TANKS - GENERAL

Waste Tank Safety Issue

A potentially unsafe condition in the handling of waste material in underground storage tanks that requires corrective action to reduce or eliminate the unsafe condition.

Watch List Tank

An underground storage tank containing waste that requires special safety precautions because it may have a serious potential for release of high level radioactive waste because of uncontrolled increases in temperature or pressure. Special restrictions have been placed on these tanks by "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," Section 3137 of the *National Defense Authorization Act for Fiscal Year 1991*, November 5, 1990, Public Law 101-510, (also known as the Wyden Amendment).

Characterization

Characterization is understanding the Hanford tank waste chemical, physical, and radiological properties to the extent necessary to insure safe storage and interim operation, and ultimate disposition of the waste.

WASTE TYPES

Aging Waste (AW)

High level, first cycle solvent extraction waste from the PUREX plant (NCAW)

Concentrated Complexant (CC)

Concentrated product from the evaporation of dilute complexed waste.

Concentrated Phosphate Waste (CP)

Waste originating from the decontamination of the N Reactor in the 100 N Area. Concentration of this waste produces concentrated phosphate waste.

Dilute Complexed Waste (DC)

Characterized by a high content of organic carbon including organic complexants: ethylenediaminetetra-acetic acid (EDTA), citric acid, and hydroxyethyl-ethylenediaminetriacetic acid (HEDTA), being the major complexants used. Main sources of DC waste in the DST system are saltwell liquid inventory (from SSTs).

Dilute Non-Complexed Waste (DN)

Low activity liquid waste originating from T and S Plants, the 300 and 400 Areas, PUREX facility (decladding supernatant and miscellaneous wastes), 100 N Area (sulfate waste), B Plant, saltwells, and PFP (supernate).

Double-Shell Slurry (DSS)

Waste that exceeds the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. For reporting purposes, DSS is considered a solid.

Double-Shell Slurry Feed (DSSF)

Waste concentrated just before reaching the sodium aluminate saturation boundary in the evaporator without exceeding receiver tank composition limits. This form is not as concentrated as DSS.

Non-complexed (NCPLX)

General waste term applied to all Hanford Site (NCPLX) liquors not identified as complexed.

PUREX Decladding (PD)

PUREX Neutralized Cladding Removal Waste (NCRW) is the solids portion of the PUREX plant neutralized cladding removal waste stream; received in Tank Farms as a slurry. NCRW solids are classified as transuranic (TRU) waste.

Drainable Interstitial Liquid (DIL)

Interstitial liquid that is not held in place by capillary forces, and will therefore migrate or move by gravity. (See also Section 4 below)

Supernate

The liquid above the solids or in large liquid pools covered by floating solids in waste storage tanks. (See also Section 4 below)

Ferrocyanide

A compound of iron and cyanide commonly expressed as FeCN. The actual formula for the ferrocyanide anion is $[Fe(CN)_6]^{-4}$.

INTERIM STABILIZATION (Single-Shell Tanks only)

Interim Stabilized (IS)

A tank which contains less than 50 Kgallons of drainable interstitial liquid and less than 5 Kgallons of supernatant liquid. If the tank was jet pumped to achieve interim stabilization, then the jet pump flow or saltwell screen inflow must also have been at or below 0.05 gpm before interim stabilization criteria is met.

Jet Pump

The jet pump system includes 1) a jet assembly with foot valve mounted to the base of two pipes that extend from the top of the well to near the bottom of the well casing inside the saltwell screen, 2) a centrifugal pump to supply power fluid to the down-hole jet assembly, 3) flexible or rigid transfer jumpers, 4) a flush line, and 5) a flowmeter. The jumpers contain piping, valves, and pressure and limit switches.

The centrifugal pump and jet assembly are needed to pump the interstitial liquid from the saltwell screen into the pump pit, nominally a 40-foot elevation rise. The power fluid passes through a nozzle in the jet assembly and acts to convert fluid pressure head to velocity head, thereby reducing the pressure in the jet assembly chamber. The reduction in pressure allows the interstitial liquid to enter the jet assembly chamber and mix with the power fluid. Velocity head is converted to pressure head above the nozzle, lifting power fluid, and interstitial liquid to the pump pit. Pumping rates vary from 0.05 gallons to about 4 gpm.

Saltwell Screen

The saltwell system is a 10-inch diameter saltwell casing consisting of a stainless steel saltwell screen welded to a Schedule 40 carbon steel pipe. The casing and screen are to be inserted into the 12-inch tank riser located in the pump pit. The stainless steel screen portion of the system will extend through the tank waste to near the bottom of the tank. The saltwell screen portion of the casing is an approximately 10-foot length of 300 Series, 10-inch diameter, stainless steel pipe with screen openings (slots) of 0.05 inches.

Emergency Pumping Trailer

A 45-foot tractor-type trailer is equipped to provide storage space and service facilities for emergency pumping equipment: this consists of two dedicated jet pump jumpers and two jet pumps, piping and dip tubes for each, two submersible pumps and attached piping, and a skid-mounted Weight Factor Instrument Enclosure (WFIE) with an air compressor and electronic recording instruments. The skid also contains a power control station for the pumps, pump pit leak detection, and instrumentation. A rack for over 100 feet of overground double-contained piping is also in the trailer.

INTRUSION PREVENTION (ISOLATION) Single-Shell Tanks only

Partially Interim Isolated (PI)

The administrative designation reflecting the completion of the physical effort required for Interim Isolation except for isolation of risers and piping that is required for jet pumping or for other methods of stabilization.

Interim Isolated (II)

The administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box. In June 1993, Interim Isolation was replaced by Intrusion Prevention.

Intrusion Prevention (IP)

Intrusion Prevention is the administrative designation reflecting the completion of the physical effort required to minimize the addition of liquids into an inactive storage tank, process vault, sump, catch tank, or diversion box. Under no circumstances are electrical or instrumentation devices disconnected or disabled during the intrusion prevention process (with the exception of the electrical pump).

Controlled, Clean, and Stable (CCS)

Controlled, Clean, and Stable reflects the completion of several objectives: "Controlled" - provide remote monitoring for required instrumentation and implement controls required in the TWRS Authorization Basis; "Clean" - remove surface soil contamination and downpost the Tank Farms to RBA/URMA/RA radiological control status, remove abandoned equipment, and place reusuable equipment in compliant storage; and "Stable" - remove pumpable liquids from the SSTs and IMUSTs and isolate the tanks.

TANK INTEGRITY

Sound

The integrity classification of a waste storage tank for which surveillance data indicate no loss of liquid attributed to a breach of integrity.

Assumed Leaker

The integrity classification of a waste storage tank for which surveillance data indicate a loss of liquid attributed to a breach of integrity.

Assumed Re-Leaker

A condition that exists after a tank has been declared as an "assumed leaker" and then the surveillance data indicates a new loss of liquid attributed to a breach of integrity.

TANK INVESTIGATION

Intrusion

A term used to describe the infiltration of liquid into a waste tank.

SURVEILLANCE INSTRUMENTATION

Drywells

Historically, the drywells were monitored with gross logging tools as part of a secondary leak monitoring system. In some cases, neutron-moisture sensors were used to monitor moisture in the soil as a function of well depth, which could be indicative of tank leakage. The routine gross gamma logging data were stored electronically from 1974 through 1994. The routine gross gamma logging program ended in 1994. A program was initiated in 1995 to log each of the available drywells in each tank farm with a spectral gamma logging system. The spectral gamma logging system provides quantitative values for gamma-emitting radionuclides. The baseline spectral gamma logging database is available electronically.

Repeat spectral drywell scans are not part of the established Tank Farm leak detection program, but can be run on request if special needs arise. A select subset of drywells is routinely monitored by the Vadose Zone Characterization Project to assess movement of gamma-emitting radionuclides in the subsurface.

Laterals

Laterals are horizontal drywells positioned under single-shell waste storage tanks to detect radionuclides in the soil which could be indicative of tank leakage. These drywells can be monitored by radiation detection probes. Laterals are 4-inch inside diameter steel pipes located 8 to 10 feet below the tank's concrete base. There are three laterals per tank. Laterals are located only in A and SX farms. There are currently no functioning laterals and no plan to prepare them for use.

Surface Levels

The surface level measurements in all waste storage tanks are monitored by manual or automatic conductivity probes, and recorded and transmitted or entered into the Surveillance Analysis Computer System (SACS).

Automatic FIC

An automatic waste surface level measurement device is manufactured by the Food Instrument Company (FIC). The instrument consists of a conductivity electrode (plummet) connected to a calibrated steel tape, a steel tape reel housing and a controller that automatically raises and lowers the plummet to obtain a waste surface level reading. The controller can provide a digital display of the data and until February 1999, the majority of the FICs transmitted readings to the CASS. Since CASS retirement, all FIC gauges are read manually. FICs are being replaced by ENRAF detectors (see below).

ENRAF 854 ATG Level Detector

FICs and some manual tapes are in the process of being replaced by the ENRAF ATG 854 level detector. The ENRAF gauge, fabricated by ENRAF Incorporated, determines waste level by detecting variations in the weight of a displacer suspended in the tank waste. The displacer is connected to a wire wound onto a precision measuring drum. A level causes a change in the weight of the displacer which will be detected by the force transducer. Electronics within the gauge causes the servo motor to adjust the position of the displacer and compute the tank level based on the new position of the displacer drum. The gauge displays the level in decimal inches. The first few ENRAFs that received remote reading capability transmit liquid level data via analog output to the Tank Monitor and Control System (TMACS). The remaining ENRAFs and future installations will transmit digital level data to TMACS via an ENRAF Computer Interface Unit (CIU). The CIU allows fully remote communication with the gauge, minimizing tank farm entry.

Annulus

The annulus is the space between the inner and outer shells on DSTs only. Drain channels in the insulating and/or supporting concrete carry any leakage to the annulus space where conductivity probes are installed. The annulus conductivity probes and radiation detectors are the primary means of leak detection for all DSTs.

Liquid Observation Well (LOW)

In-tank liquid observation wells are used for monitoring the interstitial liquid level (ILL) in single-shell waste storage tanks. The wells are usually constructed of fiberglass or TEFZEL-reinforced epoxy-polyester resin (TEFZEL, a trademark of E. I. du Pont de Nemours & Company). There are a few LOWs constructed of steel. LOWs are sized to extend to within 1 inch of the bottom of the waste tank, are sealed at their bottom ends and have a nominal outside diameter of 3.5 inches. Two probes are used to monitor changes in the ILL; gamma and neutron, which can indicate intrusions or leakage by increases or decreases in the ILL. There are 65 LOWs (64 are in operation) installed in SSTs that contain or are capable of containing greater than 50 Kgallons of drainable interstitial liquid, and in two DSTs only. The LOWs installed in two DSTs, (SY-102 and AW-103 tanks), are used for special, rather than routine, surveillance purposes only.

Thermocouple (TC)

A thermocouple is a thermoelectric device used to measure temperature. More than one thermocouple on a device (probe) is called a thermocouple tree. In DSTs there may be one or more thermocouple trees in risers in the primary tank. In addition, in DSTs only, there are thermocouple elements installed in the insulating concrete, the lower primary tank knuckle, the secondary tank concrete foundation, and in the outer structural concrete.

These monitor temperature gradients within the concrete walls, bottom of the tank, and the domes. In SSTs, one or more thermocouples may be installed directly in a tank, although some SSTs do not have any trees installed. A single thermocouple (probe) may be installed in a riser, or lowered down an existing riser or LOW. There are also four thermocouple laterals beneath Tank 105-A in which temperature readings are taken in 34 thermocouples.

In-tank Photographs and Videos

In-tank photographs and videos may be taken to aid in resolving in-tank measurement anomalies and determine tank integrity. Photographs and videos help determine sludge and liquid levels by visual examination.

TERMS/ACRONYMS

CCS Controlled, Clean and Stable (tank farms)

FSAR Final Safety Analysis Report (replaces BIOS, effective October 18, 1999)

II Interim Isolated

IP Intrusion Prevention Completed

IS Interim Stabilized

MT/FIC/ENRAF Manual Tape, Food Instrument Corporation, ENRAF Corporation (surface level measurement devices)

OSD Operating Specifications Document

PI Partial Interim Isolated

SAR Safety Analysis Reports

SHMS Standard Hydrogen Monitoring System

TMACS Tank Monitor and Control System

TPA Hanford Federal Facility Consent and Compliance Order, "Washington State Department of Ecology, U. S. Environmental Protection Agency, and U. S. Department of Energy," Fourth Amendment, 1994 (Tri-Party Agreement)

USQ Unreviewed Safety Question

Wyden Amendment "Safety Measures for Waste Tanks at Hanford Nuclear Reservation," Section 3137 of the National Defense Authorization Act for Fiscal Year 1991, November 5, 1990, Public Law 101-510.

3. INVENTORY AND STATUS BY TANK – COLUMN VOLUME CALCULATIONS AND DEFINITIONS FOR TABLE A-6 (SINGLE-SHELL TANKS)

COLUMN HEADING	COLUMN VOLUME CALCULATIONS (Underlined)/DEFINITIONS
Total Waste	Solids volume plus Supernatant liquid. Solids include sludge and saltcake (see definitions below).
Supernate (1)	May be either measured or estimated. Supernate is either the estimated or measured liquid floating on the surface of the waste or under a floating solids crust. In-tank photographs or videos are useful in estimating the liquid volumes; liquid floating on solids and core sample data are useful in estimating large liquid pools under a floating crust.
Drainable Interstitial Liquid (DIL) (1)	This is initially calculated. Drainable interstitial liquid is calculated based on the saltcake and sludge volumes, using calculated porosity values from past pumping or actual data for each tank. Interstitial liquid is liquid that fills the interstitial spaces of the solids waste. The sum of the interstitial liquid contained in saltcake and sludge minus an adjustment for capillary height is the initial volume of drainable interstitial liquid.

COLUMN HEADING	COLUMN VOLUME CALCULATIONS (Underlined)/DEFINITIONS
Pumped This Month	Net total gallons of liquid pumped from the tank during the month. If supernate is present, pump production is first subtracted from the supernatant volume. The remainder is then subtracted from the drainable interstitial liquid volume.
Total Pumped (1)	Cumulative net total gallons of liquid pumped from 1979 to date.
Drainable Liquid Remaining (DLR) (1)	Supernate plus Drainable Interstitial Liquid. The total Drainable Liquid Remaining is the sum of drainable interstitial liquid and supernate.
Pumpable Liquid Remaining (PLR) (1)	Drainable Liquid Remaining minus unpumpable volume. Not all drainable interstitial liquid is pumpable.
Sludge	Solids formed during sodium hydroxide additions to waste. Sludge usually was in the form of suspended solids when the waste was originally received in the tank from the waste generator. In-tank photographs or videos may be used to estimate the volume.
Saltcake	Results from crystallization and precipitation after concentration of liquid waste, usually in an evaporator. If saltcake is layered over sludge, it is only possible to measure total solids volume. In-tank photographs or videos may be used to estimate the saltcake volume.
Solids Volume Update	Indicates the latest update of any change in the solids volume.
Solids Update Source - See Footnote	Indicates the source or basis of the latest solids volume update.
Last In-tank Photo	Date of last in-tank photographs taken.
Last In-tank Video	Date of last in-tank video taken.
See Footnotes for These Changes	Indicates any change made the previous month. A footnote explanation for the change follows the Inventory and Status by Tank Appendix (Table E-6).

(1) As pumping continues, supernate, DIL, DLR, PLR, and total gallons pumped are adjusted accordingly based on actual pump volumes.

APPENDIX I

TANK FARM CONFIGURATION, STATUS AND FACILITY CHARTS

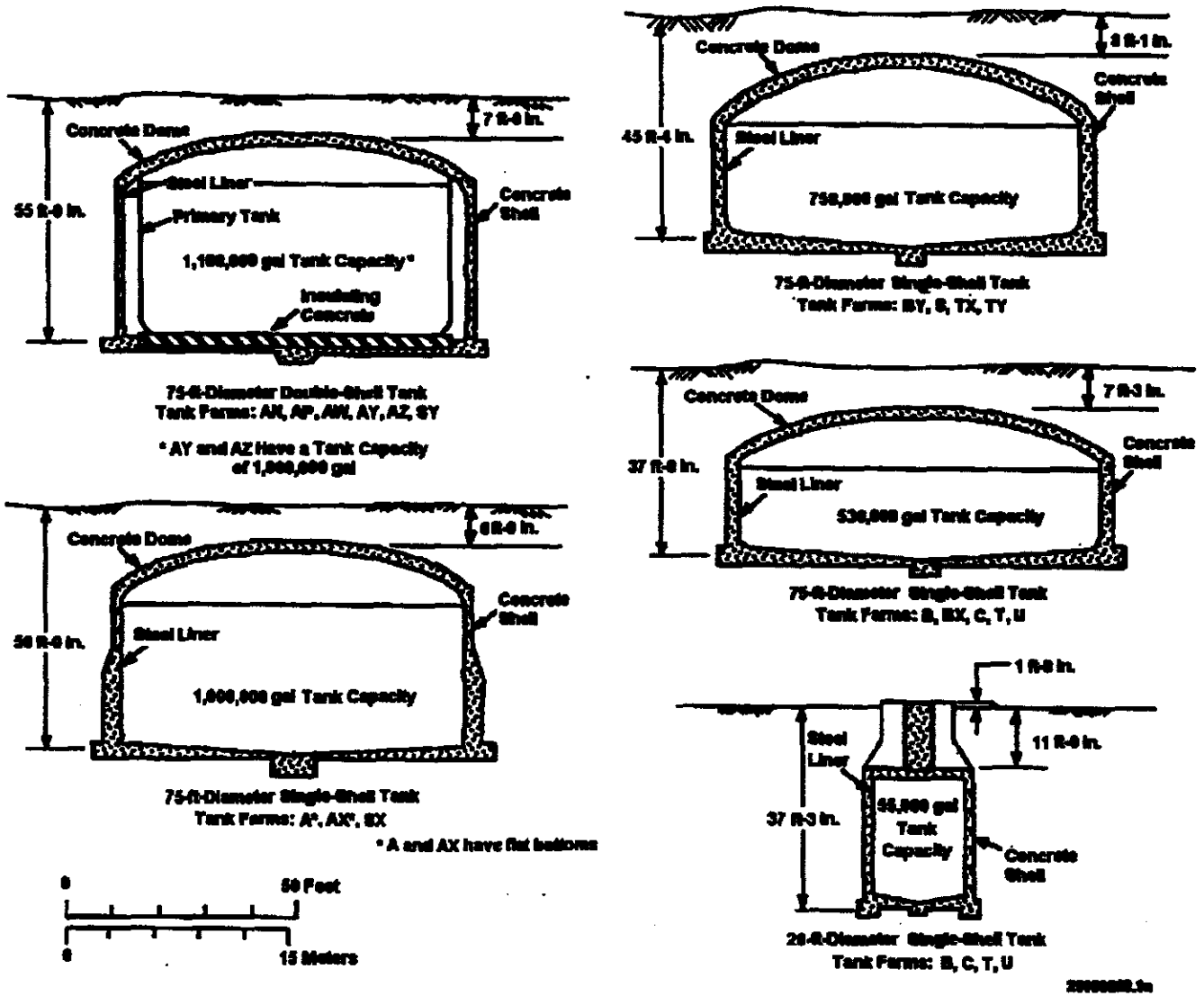


FIGURE I-1. HIGH LEVEL WASTE TANK CONFIGURATION

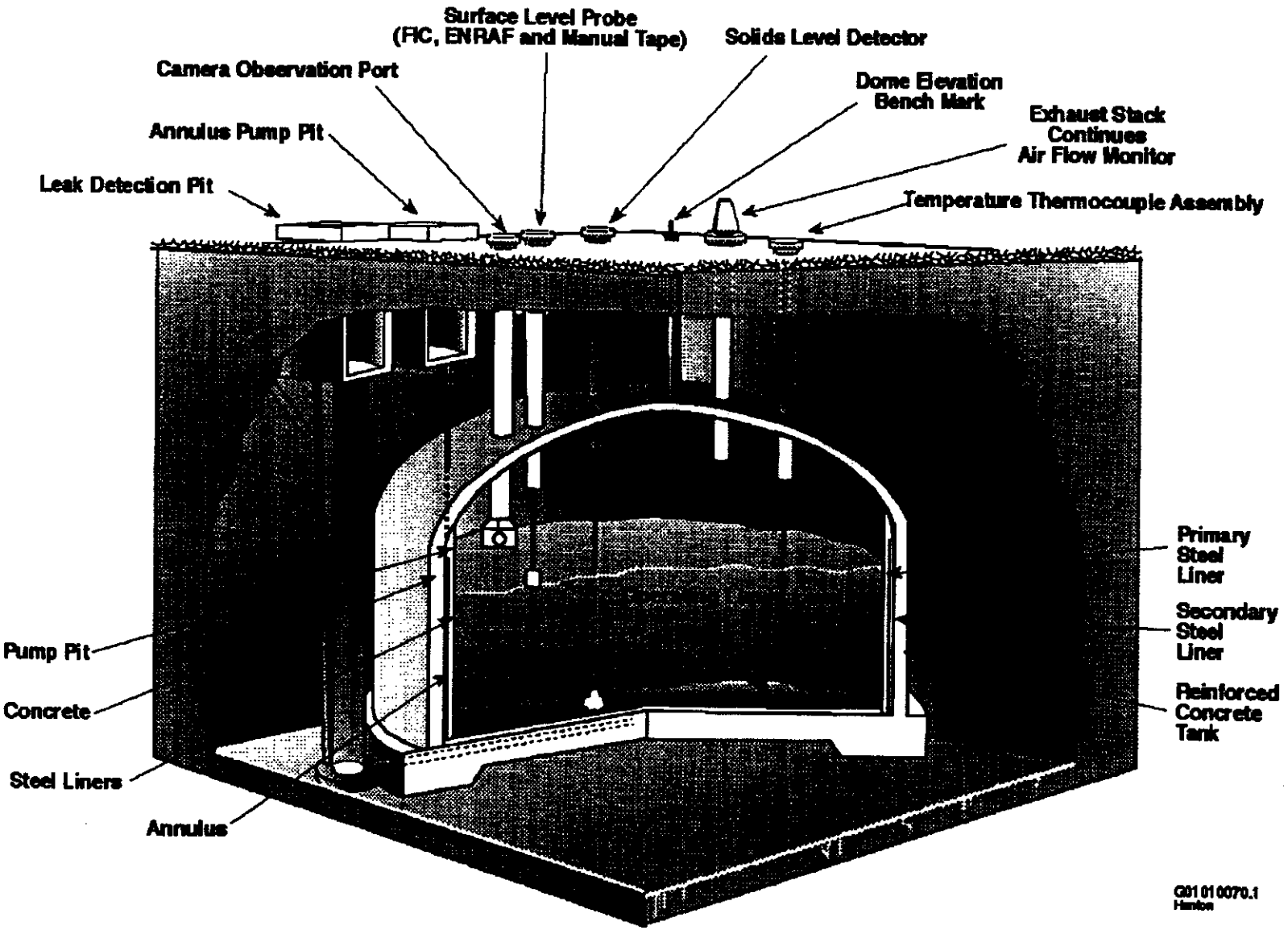


Figure I-2. Double-Shell Tank Instrumentation Configuration

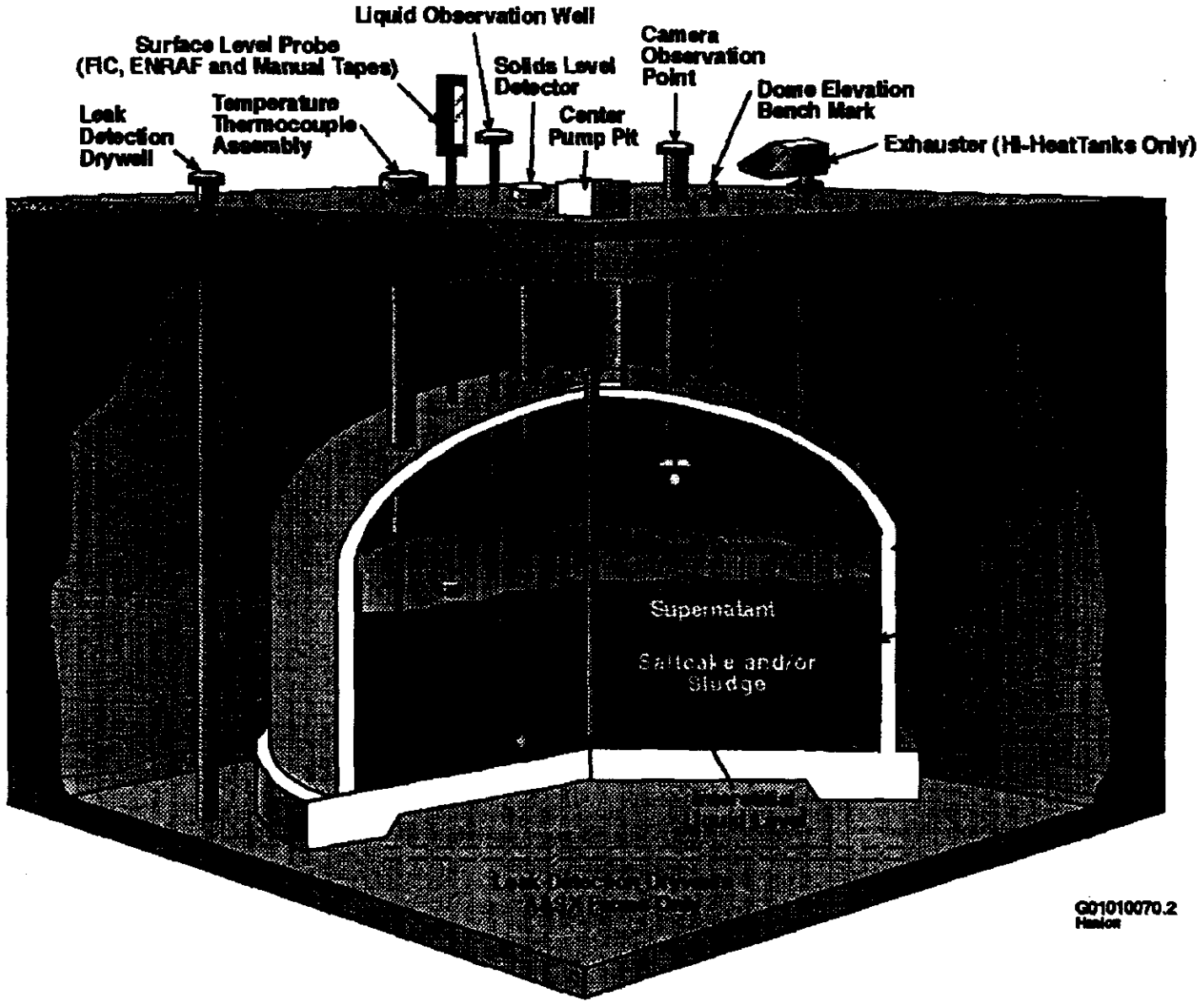


Figure I-3. Single-Shell Tank Instrumentation Configuration

Hanford Tank Farm Facilities 200 East

Note:
All single-shell tanks were removed from service (not allowed to receive waste) on or before November 21, 1980

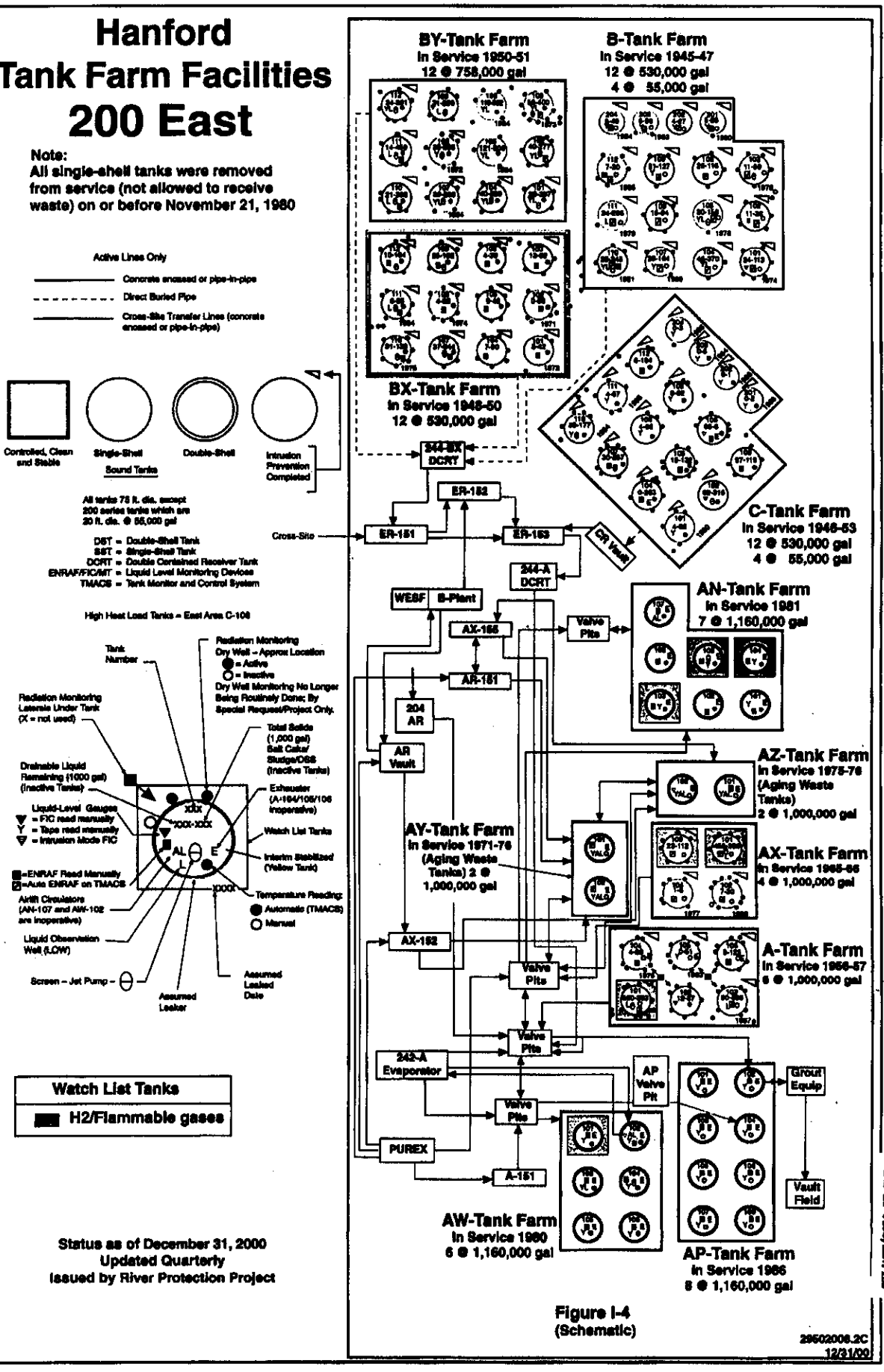


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Figure I-4
(Schematic)

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Hanford
Tank Farm Facilities
200 West

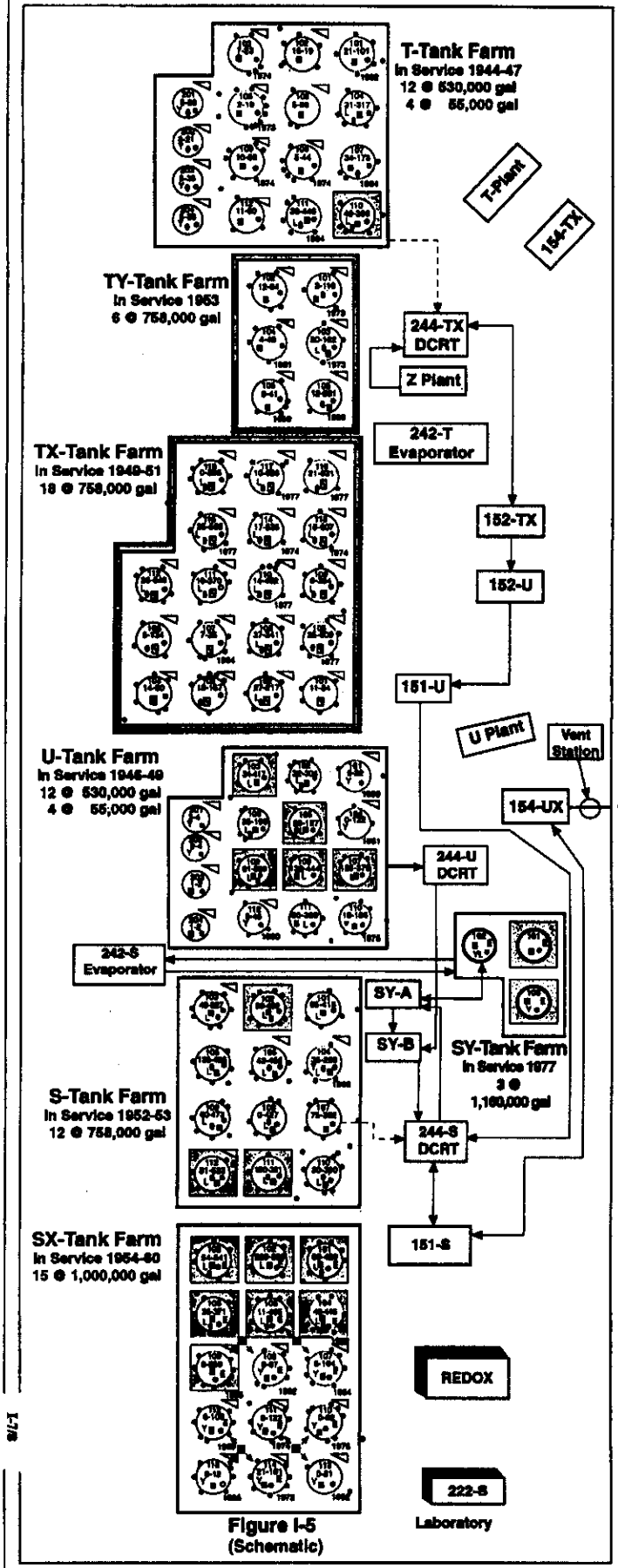
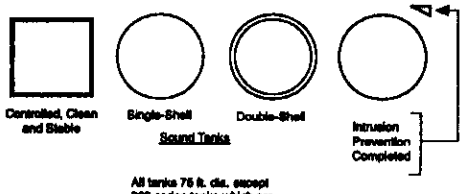


Figure I-5
(Schematic)

Note:
All single-shell tanks were removed from service (not allowed to receive waste) on or before November 21, 1980

Active Lines Only

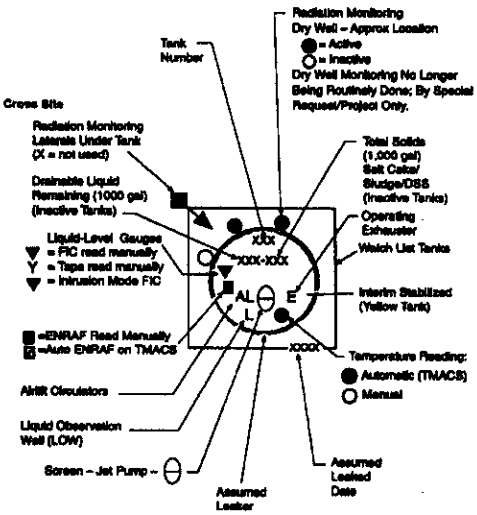
- Concrete encased or pipe-in-pipe
- Direct Buried Pipe
- Cross-Site Transfer Lines (concrete encased or pipe-in-pipe)



All tanks 75 ft. dia. except 200 series tanks which are 20 ft. dia. @ 55,000 gal

DST = Double-Shell Tank
SST = Single-Shell Tank
DCRT = Double Contained Receiver Tank
ENRAF/FIC/MT = Liquid Level Monitoring Devices
TMACS = Tank Monitor and Control System

High Heat Load Tanks = West Area - SX-107/108/109/110/111/112/114



Watch List Tanks
H2/Flammable gases (109-SX has potential only-other tanks vent through it)

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